

Airport Advisory Committee To Submit Recommendations

A. B. Curry, director of the Dade County Port Authority, Miami, Fla., was elected chairman of the Civil Aeronautics Administration's recently established Airports Advisory Committee at its first session in Washington last month. Walter E. Betsworth, manager, Waterloo Municipal Airport, Waterloo, Iowa, was elected vice chairman. Chairman Curry announced that some 20 recommendations will be submitted to D. W. Rentzel, Administrator of Civil Aeronautics. He said that the committee will heed Mr. Rentzel's request to "pull no punches" in the recommendations to the CAA regarding the management, operation, and maintenance of airports.

The committee of 12, representing all phases of airport operations, was set up recently as an advisory group to the CAA. The next meeting of the committee will be held in Los Angeles in January.

The committee was received by President Truman at the White House and met with Vice President Barkley at a capitol luncheon.

Membership Certificates Presented.—Members were presented with certificates of membership by Senator Kenneth Wherry of Nebraska, who praised the group for serving without pay "so that you can develop the most uses of airports, maintain the ones that we have, and, if possible, get more airports in the interest of aviation."

The Nebraska Senator referred to aviation as "a great transportation system," adding: "You have just scratched the surface. How wonderful air service was to the ranchers of Nebraska last winter when they had to bail those ranchers out with hay. How wonderful it was that we could continue the air lift into Berlin, and while economically or commercially you couldn't justify the expense, yet I think it did more to encourage or increase the morale of the German people than any expenditure we have made since the war."

Merle Houston, formerly manager of the Harlingen, Tex., airport, now manager of the Lubbock, Tex., airport, originally appointed to the committee, resigned effective at the end of the month and was replaced by John H. Burke, Wiley Post Airport, Oklahoma City. Both attended the committee meeting.

Airport Problems Presented.—The first day of the 4-day conference was devoted to discussions, by CAA personnel, of the various problems affecting airport construction, management, and operation, followed by forum discussion of the subjects by members

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Rentzel Details Programs for Aid To Civil Aviation

Programs of the Civil Aeronautics Administration to encourage and foster the development of civil aviation were outlined by D. W. Rentzel, Administrator of Civil Aeronautics, in an address at a luncheon meeting of the Aeronautics Association of Boston September 22.

"I am convinced that Congress intended that the CAA encourage and foster aviation just as positively as it is ordered to regulate it," the Administrator said. "Unfortunately, over the years, regulation has assumed more than its share of emphasis and importance, and development has often become incidental."

Perhaps the typical American cry "There ought to be a law," has contributed to this situation, he said, adding that there is no simple answer to the question of how much regulation is necessary. "Even now we are engaged in talks with the aviation industry, particularly those who manufacture planes, on our proposal to them that they take over the certification of their products, and allow the CAA to retire from that field. These talks are 2 years old, and no agreements yet have been reached."

Suggestions for Races.—Suggestions offered to increase the contribution of the National Air Races in personal flying development by placing more emphasis on

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Thomas W. S. Davis Appointed Assistant Commerce Secretary

Thomas W. S. Davis, special assistant to the president of United Air Lines, was appointed Assistant Secretary of Commerce last month by President Truman.

The appointment was confirmed by the United States Senate on September 22.

Mr. Davis, 39, is a native of Warrenton, Va. He was educated at the United States Naval Academy and the University of Virginia. He took a law degree from the Washington College of Law but is not a practicing attorney.

During the recent war, he was commissioned in the Navy and served as administrative assistant to the director of the Naval Vessels and Aircraft Division. With United since October 1943, Mr. Davis worked on the development of air cargo and more recently on public relations.

Prompt Attention to Safety Directives Urged

Owners of personal-type airplanes should be prompt in making mechanical changes necessary for safe operation, D. W. Rentzel, Administrator of Civil Aeronautics, cautioned recently.

Such changes and repairs, when needed, are described in CAA airworthiness directives, prepared by the Office of Aviation Safety. The directives are distributed to all airport managers, certificated mechanics, repair stations, and CAA offices. Unless the plane owner consults these directives, he has no way of knowing of changes which may be urgently necessary in his aircraft.

Aircraft and their components are carefully tested and inspected before they are approved for use by the public. Occasionally, however, a part fails to give the anticipated service. In such cases, an airworthiness directive is issued requiring the plane owner to substitute a part of different design or composition.

Several recent small-plane accidents appear to have been caused by failure of the owners to comply with these directives, which are issued to protect the public, pilot, passengers, and owners.

Projects To Study Aircraft Fires Get Major Attention at CAA Center

Continuous study of methods to attain safety from fires in the air has been and is a major project of the program of the Civil Aeronautics Administration at its Technical Development Center at Indianapolis.

One important phase deals with fires in aircraft baggage compartments, and the character of such fires, confined as they are in a compartment and feeding on miscellaneous baggage, makes their discovery most difficult and intricate. Engineers know that, once discovered, fires can be extinguished by methods developed during their previous study of thousands of fires, and their accumulated knowledge of extinguishing agents and methods.

Like all other projects in the study of aircraft fires, this is one which may never be finished. The very nature of flying and its unceasingly changing and speedy development have produced a condition where CAA employees work at tasks which they find impossible to bring to completion. Projects several years old still are underway, although many of the lessons learned have been put to effective use in existing designs.

New Studies Planned.—Four entirely new attacks on fire are scheduled for next year, including a study of the combustion heaters used on transport planes; a detector to warn of the existence of inflammable vapors before they burst into flame; a study of hot exhaust pipes; and construction of more efficient ducts to lead air streams around the complicated engines of today.

Right along with these new projects will go a continuation of the baggage fire study, and continued experiments on virtually every previous project which has come into the center from its beginning, including the extensive work on reciprocating and jet engines, development of crash-proof fuel tanks, and assistance in the development of a fireproof lubricating oil.

A long and forward step toward elimination of fire after crashes would result if aircraft were equipped with rupture-proof fuel and oil tanks, and one of the CAA's most important projects is aimed at the development of such tanks.

Crashes Being Studied.—Using a 300-foot track mounted on concrete foundations, and powered by a Navy shipboard catapult, capable of producing speeds up to 100 miles an hour, CAA engineers are making detailed tests for the purpose of evaluating the forces encountered in crashes, the nature of impacts to be expected, and the strength of various tank structures. Thus far, the problem of adapting the catapult and other machinery to the new task has occupied considerable time.

Tanks from several types of planes have been "shot" on the catapult, and decelerated quickly or slowly so as to build up known and measurable "G" forces, and determine at what point they would rupture and spill their contents. Sample tanks have been obtained from war surplus planes and from manufacturers of commercial planes, and they have been hurled down the track when full and partly full of liquid so as to simulate actual operating conditions. Most of the tests thus far have been necessarily preliminary to establish standards for future testing.

A backstop consisting of a steel plate mounted on timbers and backed up with an earth embankment has been built at the end of the catapult track and future tests will include catapulting tanks directly against it.

Specialized Investigations Made.—As engineers from the CAA's fire program are informed of a major accident, they conduct their specialized investigation on the scene. In a recent airline crash which did not result in fire or fatalities, the tanks survived without spilling any of their contents. These tanks have been brought to Indianapolis, where they will be given the usual tests. Since they are of a controversial design,

CAA engineers expect to learn important facts from the study.

Detailed investigation and study have failed to show conclusively that baggage ever has started a fire in the air. Actually, there have been very few records of baggage fires in airplanes, and while evidence has been found that baggage has burned in planes on the ground, no real proof of fires in flight which have started in the baggage ever has been produced.

Nevertheless, the suspicion that baggage fire might have caused one or more of our air fires was enough to set the CAA engineers on that trail, and for more than a year they have been starting and putting out hundreds of fires from bench tests to exact replicas of transport plane baggage compartments. They are seeking to learn how such fires might start, and how to confine them where they will cause no danger to passengers, or to extinguish them. They also are doing research in an effort to obtain apparatus which will be so delicate that the pilot will have accurate knowledge of a fire in the baggage compartment, so that it can be controlled and extinguished instantly.

Baggage Complicates Studies.—Baggage complicates fire study. In the case of the airplane engine, fires usually are brisk and noticeable, and the heat and light they generate make it possible for detectors to locate them and flash warnings. At the start, burning baggage usually does nothing more than smoke, so that a detector must be able to "sniff" as well as see.

Yet, when existing smoke detectors were installed in transport plane baggage compartments, they turned in so many false fire alarms that the airlines asked and received permission from the Civil Aeronautics Board to remove them.

At Indianapolis, CAA engineers have built a replica of the baggage compartment of one commonly used large-type civil transport. It is 30 feet long, 5 feet wide, 30 inches deep at the front, and 20 inches deep at the back. They force air through this compartment in the same volume that occurs when the plane is in flight. Then they set their fires and make observations and measurements.

To produce a standard fire for study, they use a cardboard box filled with excelsior. In the middle of the excelsior is a charge of 70 grams of gunpowder. When this is ignited by an electric spark, the box usually burns for about 30 minutes. These fires make possible close study of various kinds of detectors and extinguishing agents.

Fires Started in Suitcases.—CAA engineers have used suitcases full of clothes, and have packed them with burning cigarettes in the folds of the clothes; with bottles of paint thinner and 100 octane gasoline inside, all ignited electrically. They found that any fires in the clothing had to be nursed along, and very few of them caused anything more than an acrid smoke.

Regulations now provide that baggage compartments be accessible in flight, and CAA engineers have conducted tests, using themselves as guinea pigs, on reaching a burning suitcase in the far corner of the huge model's baggage compartment. Even with gas masks which permit comfortable breathing, it has been found impossible to endure the smoke caused by one of their manufactured fires. Thus, they have proved conclusively that if fire is possible in a baggage compartment, an extinguishing system in the compartment is a necessity.

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Civil Aeronautics Administration
D. W. Rentzel, Administrator
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CAA and CAB Releases

Copies of CAA releases may be obtained from the CAA Office of Aviation Information. CAB releases are obtainable from the Public Information Section of the Board. Both offices are located in the Department of Commerce Building, Washington 25, D. C.

Administration

Handbook of Metal Strengths Available—(September 7).

CAA Urges Plane Owners to Make Changes and Repairs Promptly—(September 22).

Board

CAB Denies Authorization for Domestic All-Expense Air Tours—(CAB 49-74) Aug. 22, 1949.

Appropriation Cut to Ground Board Aircraft—(CAB 49-75) Aug. 25, 1949.

CAB Approves American-Delta Interchange of Equipment Agreement—(CAB 49-76) Sept. 1, 1949.

CAB Issues Policy Statement on Coach and Promotional Tariffs—(CAB 49-77) Sept. 7, 1949.

CAB Sets Hearing for Transocean Airlines Accident, Shannon, Eire, Aug. 15, 1949—(CAB 49-78) Sept. 8, 1949.

Mileage & Traffic Statistics for June 1949—(CAB 49-79) Sept. 13, 1949.

TWA Coach Service to Continue Through December 31—(CAB 49-80) Sept. 13, 1949.

Air Service To Newport News, Va.—(CAB 49-81) Sept. 16, 1949.

Fireproofing Paint Tested.—Several types of fireproofing paint have been tested at the center. A panel of aluminum, treated with such paint, will be unaffected after hours under the flame of a blowtorch. One type fluffs up into brittle bubbles under the influence of the heat, and prevents any damage to the metal. This appeared to the engineers to be an excellent idea for containing fire within the baggage compartments, except that the scuffing and friction caused by baggage being loaded and unloaded would wear off the protection and vibration of the plane would affect the coating after the flame had made it brittle.

Despite the obvious impossibility ever to mark a project closed, the engineers continually take on new campaigns for air safety. Having determined with the collaboration of industry the best existing agents

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Aeronautical Industry Notes Gain in Sales For Second Quarter

The aeronautical industry's sales for the second quarter of this year totaled 429 million dollars, an increase of 12 percent over the previous quarter and a gain of 22 percent over the second quarter of 1948. Sales for the first half of 1949 now stand at 811 million dollars with military sales accounting for 81 percent, civil sales 13 percent, and other products and services 6 percent.

On June 30, 1949, the combined backlog for the aircraft, engine, and propeller industries stood at 2,881 million dollars. Of this amount, 1,922 million dollars, or 67 percent, represented orders for complete aircraft and parts; 688 million dollars, or 24 percent, represented orders for aircraft engines and parts; 111 million dollars, or 4 percent, represented orders for aircraft propellers and parts; and 160 million dollars, or 5 percent, represented orders for other products and services. The backlog on hand on June 30, 1949, was 10 percent less than the 3,212 million dollar backlog a year ago.

Detailed figures on new orders, sales, and backlog for the second quarter of 1949 show:

Backlog, Sales, and Net New Orders for Quarter Ending June 30, 1949

[In Millions of Dollars]

	Backlog beginning of quarter	Net new orders during quarter ¹	Net sales during quarter	Backlog at end of quarter
Total.....	\$2,993	\$317	\$429	\$2,881
Complete aircraft and parts.....	1,992	194	264	1,922
U. S. military.....	1,868	157	232	1,793
Other.....	124	37	32	129
Aircraft engines and parts.....	784	24	120	688
U. S. military.....	746	13	108	651
Other.....	38	11	12	37
Aircraft propellers and parts.....	104	26	19	111
U. S. military.....	99	23	16	106
Other.....	5	3	3	5
Other products and services.....	113	73	26	160

¹ Net orders received during quarter less cancellations during quarter. Cancellations not shown separately to avoid disclosing figures for individual companies.

Shipments of Civil Aircraft Declined in Number in July

July civil aircraft shipments totaled 301 aircraft weighing 478,400 airframe pounds, valued at 8.6 million dollars. The July output represented a decline of 31 percent in number and 11 percent in weight below the previous month. Value was up slightly, however, due to an increase in transport shipments. Comparable figures for July 1948 were 920 aircraft, weighing 977,500 airframe pounds and valued at 9.5 million dollars.

The detailed figures on July civil aircraft shipments show:

Civil Aircraft Shipments, July 1949

	1949		1948
	July	June	July
Number (total).....	301	439	920
Number by place:			
1- and 2-place.....	71	141	473
Over 2-place.....	230	298	447
Airframe weight (thousand lbs.).....	478.4	537.9	977.5
Value (thousand dollars).....			
Aircraft.....	\$8,606	\$8,383	\$9,511
Parts.....	2,237	2,549	1,767
Other products.....	1,561	2,042	1,813

CAA Engineers Testing Noninflammable Fluid



The fight to prevent and control fire in the air is a continuous one for the CAA Technical Development Center at Indianapolis and has many aspects. Above is shown vaporized flame-proof hydraulic fluid being sprayed through the flame of a welding torch without igniting.

Projects to Study Fires Major CAA Undertaking

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for extinguishing aircraft engine fires, they believed they finally had arrived at a termination point. The next day, however, a commercial company sent samples of 10 different extinguishing agents, and on the same day another firm sent eight new samples. So these tests must and will continue.

Many Fire Detectors Devised.—In the case of detectors to locate and warn of fires, they have tested 10 or 12 varieties of each of 24 basic types in 10 years. They range from early designs where soft wire, heated by the flames, melted and gave an alarm, to highly scientific "electric eye" detectors which "see" flame or unusual heat. New detectors and new ideas in fire detection are received weekly.

One new project for next year is a search for a device which will detect the presence of inflammable vapor and warn the pilot before there is flame. The fire fighters admit this would be a delicate device, but they believe the development will be worthwhile.

The strange fire on the DC-6 caused by overflowing gasoline getting into a cabin heater is the origin of another new project scheduled for next year. The origin of this fire amazed aviation experts. Gasoline which overflowed from a wing tank while it was being transferred from one tank to another, traveled back along the belly of the plane, across the fuselage and slightly forward to enter an air intake which fed the cabin heater. Inside the heater, it ignited. No one, they say, could have foreseen this peculiar action of air movement about the skin of a plane, and the air scoop was not considered improperly or unwisely located. Now, the scoop is located on the leading edge of the wing, but the study of the gasoline-burning combustion heaters will be undertaken to insure that they are safely designed, located, and operated.

Surplus Planes Crashed.—Since World War I days, the "hot stack" has been a birthplace of fires in the air. Early tests of this danger were made by the air services at Dayton, where surplus war planes were crashed into brick walls and the resultant fires

studied. Since then the exhaust manifolds of aircraft engines have become greatly complicated. For example, one engine now being "burned" in the special fire test building at Indianapolis consists, in effect, of four 7-cylinder radial engines set closely one behind the other, with a mass of wiring, piping, and exhaust manifolds. While the same engine is used in several planes, each manufacturer has his own style of installation.

Knowing that proper cooling of these manifolds will prevent fire, and also that fires will not live in rushing air of a certain speed and volume, the engineers are seeking the "hot spots" so that they can pass on their findings to the designers of aircraft who specify the engine installation.

A parallel project will be the design of air cooling ducts for complicated engines. While they do not expect to obtain uniformity in the design of these cooling systems, they believe their knowledge will be helpful to the airplane and engine designers whose advance work will be on the preventive side of fire fighting.

Noninflammable Oil Sought.—One project now 2 years old, and likely to continue for a long time, is the search for a lubricating oil which will not burn. Hot oil leaking from the engine or from the oil tank ruptured in a crash and spilled on a hot engine has caused many of the fires in flight, and perhaps a great portion of fires after crashes. On hot metals, oil ignites faster and at lower temperatures than aviation gasoline, and it is present in greater quantity at danger points in crashes. Gasoline actually in the engine is small in quantity and soon burns out, and gasoline in a punctured tank burns through the hole and rarely explodes.

Dozens of commercial companies are aiding in the search for noninflammable oil. The objective, of course, is to build an oil which will have all the necessary lubrication characteristics at high and low temperatures and still be flame-proof or resist burning.

The work continues without end, with young engineers working side-by-side with veterans in the industry on full scale reciprocating and jet engines, seeking out one-by-one the potential sources of fire and installing a watchman to warn and a fireman to extinguish.

Official Actions Civil Aeronautics Board

Regulations

SR-335-----Effective September 1, 1949

Extends for 1 year, authorization granted the Administrator to issue air carrier operating certificates, or amendments, to persons holding temporary certificates under conditions which do not fully meet requirements of Parts 40 and 61.

Amdt. 4b-13-----Effective September 21, 1949

Amends oxygen requirements of Part 4b of the Civil Air Regulations.

Amdt. 41-5-----Effective October 21, 1949, and March 1, 1950

Amends oxygen requirements of Part 41 of the Civil Air Regulations.

Amdt. 42-2-----Effective October 21, 1949, and March 1, 1950

Amends oxygen requirements of Part 42 of the Civil Air Regulations.

Amdt. 61-6-----Effective October 21, 1949, and March 1, 1950

Amends oxygen requirements of Part 61 of the Civil Air Regulations.

Amdt. 20-5-----Effective October 1, 1949

This amendment requires the holder of a student pilot certificate or a pilot certificate with a private or commercial rating to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 21-7-----Effective October 1, 1949

This amendment requires the holder of a pilot certificate with an airline transport pilot rating to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 22-6-----Effective October 1, 1949

This amendment requires the holder of a lighter-than-air pilot certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 24-4-----Effective October 1, 1949

This amendment requires the holder of a mechanic certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 25-6-----Effective October 1, 1949

This amendment requires the holder of a parachute technician certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 26-6-----Effective October 1, 1949

This amendment requires the holder of an air-traffic controller certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 27-4-----Effective October 1, 1949

This amendment requires the holder of an aircraft dispatcher certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 33-2-----Effective October 1, 1949

This amendment requires the holder of a flight radio operator certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 34-2-----Effective October 1, 1949

This amendment requires the holder of a flight navigator certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 35-2-----Effective October 1, 1949

This amendment requires the holder of a flight engineer certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 50-1-----Effective October 1, 1949

This amendment requires that no change in location of an approved airman agency shall be made without the prior written approval of the Administrator. This will enable the Administrator to ascertain whether the facilities and equipment at the new location continue to be adequate.

Amdt. 51-4-----Effective October 1, 1949

This amendment requires the holder of a ground instructor certificate to notify the Administrator in writing of any change in his permanent mailing address within 30 days of such change.

Amdt. 52-2-----Effective October 1, 1949

This amendment requires that no change in the location of an approved repair station shall be made without the prior written approval of the Administrator. This will enable the Administrator to ascertain whether the facilities and equipment at the new location continue to be adequate.

Amdt. 53-2-----Effective October 1, 1949

This amendment requires that no change in the location of an approved mechanic school shall be made without the prior written approval of the Administrator. This will enable the Administrator to ascertain whether the facilities and equipment at the new location continue to be adequate.

Amdt. 54-1-----Effective October 1, 1949

This amendment requires that no change in the location of an approved parachute loft shall be made without the prior written approval of the Administrator. This will enable the Administrator to ascertain whether the facilities and equipment at the new location continue to be adequate.

OR-17-----Effective September 16, 1949

Authorizes the Director of the Board's Alaska office, in formal proceedings on the Board's Alaskan docket, to sever applications or parts thereof from any proceeding under title IV of the act which is pending on the Board's Alaskan docket.

SR-336-----Effective October 18, 1949

Section 50.13 (a) of the current Civil Air Regulations requires that a primary flying school giving instruction in spinnable airplanes shall provide at least 35 hours of flying in accordance with a curriculum approved by the Administrator. Such curriculum, as set forth in Civil Aeronautics Manual 50, requires that each student receiving instruction in spinnable airplanes shall be given a minimum of at least 15 hours of dual instruction of which 8 hours shall be given prior to the student's first solo flight, and at least 13 hours of solo flight time.

This Special Civil Air Regulation provides for the issuance of an air agency certificate with a primary flying school rating to an applicant who will, in lieu of the aforementioned current requirements of the Civil Air Regulations, provide, at least 55 hours of flight training of which not less than 10 hours shall be solo flight time, not less than 15 hours dual instruction time, and not less than 30 hours flight instruction time with the student acting in the capacity of an observer. A student undergoing such instruction will obtain only a total of 25 hours while actually manipulating the controls of an airplane. Thus, this amendment substitutes 30 hours of controlled observer time for 10 hours of pilot time.

The substitution of observer time for pilot time should provide the student with knowledge and experience which will enable him to pilot airplanes more safely. Moreover, since most airplane users are primarily interested in flying as a means of transportation, a program for instructing pilots in the use of airplanes most commonly used for transportation, such as 4-place airplanes, and at the same time giving them additional navigational training, should provide students with training which more closely approximates conditions which they expect to encounter after receiving pilot certificates with a private rating, thus enabling them to pilot such airplanes more safely.

However, we believe that before we make such a curriculum a mandatory requirement for all flight schools it would be desirable to study the actual result of such training during a trial period by such flight schools as might be interested in adopting the program. Therefore, we are authorizing the establishment of such a curriculum for a period of 1 year in schools desiring to institute such a course of training, which are approved by the Administrator as being competent therefor.

During such trial period it is contemplated that the Administrator will closely monitor such training, will evaluate the results thereof, and will report his findings to the Board. It is assumed that the Administrator, in evaluating the benefits of this type of program, will consider further the extent to which the controlled observer experience should be substituted for solo flight time. It will be noted that this suggested curriculum may be utilized by an appropriately rated flying school using non-spinnable airplanes without the authorization granted herein.

In consideration of the foregoing the Civil Aeronautics Board makes and promulgates a Special Civil Air Regulation, effective October 18, 1949, to read as follows:

1. In lieu of the primary flying school curriculum requirements of § 50.13 (a) of the Civil Air Regulations, the Administrator may issue an airman agency certificate with a primary flying school rating to an applicant who will, as a minimum, provide the following flight training:

- (a) 10 hours of solo flight time.
- (b) 15 hours of dual instruction time as pilot, and
- (c) 30 hours of flight instruction as an observer.
2. The curriculum shall be approved by the Administrator.
3. The solo flight time may be acquired in any type of airplane, except that the student shall solo every type of airplane in which he receives flight instruction as an observer under 1. (c), above.
4. The required dual instruction time and flight time as an observer shall be acquired and credited in the following manner: Each student shall ride at least a total of 45 hours in a 4-place or larger airplane accompanied by a flight instructor, and at least one other student. During such time each student shall pilot the airplane at least 15 hours, act in the capacity of an observer for at least 30 hours, and receive instruction in dead reckoning navigation, traffic control practices and procedures at various airports, and in the interpretation of weather conditions observed in flight. The flight time so acquired shall be appropriately credited as either "dual instruction—pilot" or "dual instruction—observer."
5. This regulation shall terminate October 18, 1950, unless sooner rescinded.

Suspensions

Private pilot certificate of Charles Huff, Quakertown, Pa., suspended 6 months from August 26, for operating an aircraft with a passenger when the aircraft was not in an airworthy condition, for operating an aircraft which had not been inspected after repairs which might have changed the flight characteristics appreciably, and for other CAR violations. The airplane crashed during take-off and both occupants received minor injuries.

Commercial pilot certificate of William Dalmor Hostutler, Fairmont, W. Va., suspended 60 days from September 1, for piloting an aircraft in the vicinity of and on the Harrisburg State Airport, New Cumberland, Pa., during the hours of darkness without displaying position lights, for failing to establish and maintain contact with the control tower, and for landing on a runway to which another aircraft had been cleared for take-off.

Pilot certificate of Alvin Garland Woods, Fort Knox, Ky., suspended 30 days, for operating an aircraft in a careless manner. While holding a student pilot certificate, he left the designated practice area and flew to a sand bar in the Mississippi River,

where he attempted to make a landing. In the attempt, the left landing gear of the plane was knocked off. He was able to keep the aircraft in the air and returned to the airport, where he successfully made a one-wheel landing.

Commercial pilot certificate of James Augustus McGeehe, Jr., Clewiston, Fla., suspended 90 days from September 8, for failing to conform to the traffic pattern at Sugarland Airport, Clewiston, Fla., for failing to have in his possession a valid pilot certificate or a medical certificate, and for operating a civil aircraft in which registration and airworthiness certificates were not carried.

Private pilot certificate of Paul Lee Brady, Morristown, Tenn., suspended 3 months from August 24, for low flying and for performing acrobatic maneuvers with a passenger when neither he nor the passenger had parachutes. While circling low over a friend's house, he struck some power lines and crashed, but without injury to himself or his passenger.

Pilot certificate of Locke Gragg, Camden, S. C., suspended 90 days from August 26, for operating an aircraft in a careless and reckless manner. He started the engine of his aircraft without having an operator at the controls and without taking adequate precautions to insure that the plane would not get out of control, with the result that the aircraft escaped and collided with a Navy plane parked on the ramp, causing considerable damage.

Student pilot certificate of David M. Earl, suspended 9 months from August 26, for operating an aircraft at a very low altitude over bathers in the water and on the beach, and over persons on the municipal pier at Biloxi, Miss.

Private pilot certificate of Bob Newton Howell, Eastland, Tex., suspended 6 months from August 25, for carrying a passenger between the hours of sunset and sunrise when he had not made the required number of take-offs and landings within the preceding 90 days, and for misrepresenting the date of an accident on the written report which he made to the CAA and the CAB.

Private pilot certificate of Guy W. Lindsey, Fort Worth, Tex., suspended 6 months from August 28, for low flying with a passenger above a congested area of Fort Worth, above a farm dwelling near Fort Worth, and above vehicles traveling along U. S. Highway 81.

Private pilot certificate of Charles Virgil Slaughter, Wichita, Kans., suspended 1 year from September 2, for piloting an aircraft at Capital Airport and vicinity, Springfield, Ill., without authorization by air traffic control and when the ceiling was less than 1,000 feet, and for piloting an aircraft within a control zone without clearance from air traffic control when the ground visibility was less than 3 miles.

Flight instructor rating of Joseph F. Niehaus, Ojus, Fla., suspended 60 days from August 25, for carelessness and inattention to his duties as a flight instructor.

Private pilot certificate of Albert J. DeBaun, Colorado Springs, Colo., suspended 6 months from August 15, for low flying with a passenger. On a diving pass over an automobile, he struck the automobile, damaging it and the plane.

Private pilot certificate of Clarence C. MacMullen suspended 6 months from September 6, for low flying over a congested area of Fairbanks, Alaska.

Private pilot certificate of Sidney Gerald Fuex, Baton Rouge, La., suspended 3 months from July 28, for low flying. While flying at a low altitude over the Amite River near Baton Rouge, the aircraft struck a power line. The pilot and a passenger escaped serious injury but the aircraft was damaged.

Commercial pilot certificate of F. N. Opel, Jr., Leavenworth, Kans., suspended 90 days from April 7, rather than for 9 months as ordered in an initial decision issued March 17, 1949, for engaging in acrobatic flight within a civil airway.

Student pilot certificate of Jack B. Schiff, St. Louis, Mo., suspended 90 days from May 25, for landing at Lambert Field without having obtained clearance, for entering the control zone at Lambert Field without clearance, for entering Lambert Field control area and zone without having first filed a flight plan, for failure to obtain or maintain radio contact with the tower, for failing to conform to the traffic pattern at Lambert Field, and for flying under conditions requiring conformance with instrument flight rules when he did not hold a valid instrument rating.

Pilot certificate of Jeremiah John Wolohan, Livingston, Calif., suspended 90 days from July 29, for piloting an aircraft with two passengers. At the time of the violation, he was eligible for a private pilot rating but held only a student pilot certificate.

Private pilot certificate of Charles David Lawver, Huntington Park, Calif., suspended 3 months from July 17, for low flying and performing acrobatic maneuvers over a congested area of East Los Angeles.

Aircraft and engine mechanic certificates of Vernal Roy Tornquist and Charles Benjamin Lawson, both of Turlock, Calif., suspended 30 days from July 23, for performing a major alteration on the engine of a civil aircraft and returning the aircraft to service without first having the same examined, inspected, and approved by a duly authorized representative of the Administrator.

Student pilot certificate of Abdel Malek Hussein Shafei, Berkeley, Calif., suspended 6 months from January 13, for low flying over the stadium of the University of California where an estimated 80,000 persons were witnessing a football game.

Commercial pilot certificate of Herbert E. Voss, Salinas, Calif., suspended 60 days from July 17, for failing to conform to the traffic pattern at the Salinas Municipal Airport and for executing a sharp turn and landing downwind across the flight path of a scheduled air carrier aircraft which at the time was on its landing approach.

Private pilot certificate of Louis Mitchell Goldberg, Santee, Calif., suspended 3 months from July 25, for piloting an aircraft in a careless and reckless manner. He blew out a tire and tube in making a hard landing on a farm near Ramona, Calif. He removed the tire and tube and, in attempting to take off with one wheel, struck an electric power line, causing the airplane to crash.

Commercial pilot certificate of Fred August Selle, Salt Lake City, Utah, suspended 6 months from December 20, 1948, for low flying and for failing to conform to the traffic pattern of the Municipal Airport, Saint Anthony, Idaho.

Revocations

Student pilot certificate of John R. Guthrie, Jr., Oceana, Va., revoked, effective June 10, for carrying a passenger and for

piloting an aircraft during hours of darkness when the plane did not display position lights.

Nonscheduled air-carrier operating certificate of Travel-on, Inc., Brooklyn, N. Y., revoked, for failing to maintain an operating base as specified in its application for a certificate, for moving the location of its main base of operations and maintenance without notifying the Administrator, and for other CAR violations.

Commercial pilot certificate of John P. Ciprich, Erie, Pa., revoked, effective August 20; for buzzing the Rodger Young Housing Project, Erie, Pa., with a passenger. The aircraft struck a tree and crashed. The passenger was killed and the pilot sustained severe injuries.

Nonscheduled air-carrier operating certificate of Air Cargo Transport Corporation, Newark, N. J., revoked, effective August 27, for failure to maintain an operating base as specified in its application for a certificate.

Student pilot certificate of Ferdinand Raicovich, revoked, effective August 27, for carrying a passenger and performing a series of acrobatic maneuvers at a low altitude directly over the Dow Air Force Base, Bangor, Maine.

Student pilot certificate of John Mike O'Brien, Jacksonville, Fla., revoked, effective September 2, for operating an aircraft when he was not the holder of a valid pilot certificate and for operating an aircraft in acrobatic flight over a congested area at an altitude of less than 1,500 feet.

Private pilot certificate of James Edward Van Dusen, Hillman, Mich., revoked, effective September 8, for operating an aircraft in such proximity to another aircraft as to create a collision hazard at Scheider Field, Alpena, Mich., and for failing to conform to the traffic pattern at Scheider Field.

Private pilot certificate of Albert James Krause, Rhineland, Wis., revoked, effective August 25, for low flying over North Harper Lake, near Westboro, Wis. He made several low passes over the lake and a western and crashed into trees, resulting in the death of two passengers and serious injury to himself.

Student pilot certificate of Donald Tyrell Fisher, Laurel, Iowa, revoked, for carrying a passenger.

Student pilot certificate of Stanley L. Ballantyne, Clear Lake, Iowa, revoked, for low flying and performing acrobatics over Clear Lake.

Student pilot certificate of Loren Glen Dye, Eads, Colo., revoked, for low flying over a congested area of Sugar City, Colo., and for operating an aircraft while he was under the influence of intoxicating liquor. The flight ended in a crash in a field when he flew so low that a wing tip of the plane struck the ground.

Student pilot certificate of Duane Mark Yirka, Seattle, Wash., revoked, effective July 19, for various violations, including acrobatic flight at low altitude with a passenger who did not have a parachute, acrobatic flight within a civil airway, and delay in making a written report of an accident.

A previous order revoking private pilot certificate of John Warren Tapp, Wheatridge, Colo., until March 21, 1951, recognized and the period of revocation extended to March 21, 1952, on the grounds that he performed acrobatics at low altitude over a congested area of Wheatridge.

Student pilot certificate of Harry Lee Smith, Phoenix, Ariz., revoked, effective July 29, for performing acrobatic maneuvers at low altitude over a congested area.

Student pilot certificate of Kenneth Humphreys, Ogden, Utah, revoked, effective July 29, for low flying and "buzzing" two occupied dwellings. The aircraft struck a tree, got out of control and crashed into a barn.

Student pilot certificate of Clifford Rury Lane, Los Angeles, Calif., revoked, effective July 17, for operating an aircraft without the consent of the owner, and for operating an aircraft in a careless and reckless manner, in that he taxied the aircraft into a parked plane causing extensive damage to both aircraft.

Student pilot certificate of Joseph F. Alessi, San Jose, Calif., revoked, effective July 17, for carrying a passenger and for piloting an aircraft outside the local flying area designated by his flight instructor when his student pilot certificate had not been appropriately endorsed.

Student pilot certificate of Leland Smith Wooley, Pocatello, Idaho, revoked, effective November 17, 1948, for carrying a passenger and for piloting an aircraft outside a designated local practice area without permission of his instructor.

Safety Orders

S-256 denies request for stay of an order issued April 8, 1949, revoking private pilot certificate of Charles Diffendall, for piloting an aircraft while he was under the influence of intoxicating liquor, for failure to conform to the traffic pattern at an airport, for piloting an aircraft in acrobatic maneuvers at an altitude of 100 feet over an open air assembly of persons, and for piloting an aircraft at an altitude of 100 feet involving hazard to persons or property of the surface (July 21).

S-257 denies petition for reconsideration filed by Armand J. Soucy, whose student pilot certificate was ordered revoked by an examiner for piloting an aircraft in acrobatic maneuvers at an altitude of less than 500 feet over a heavily congested area (July 22).

S-258 grants request for waiver of §§ 20.02 and 20.21 of the Civil Air Regulations to authorize the issuance of student and private pilot certificates to Leonora Clara Schade, a native of Germany, who, for the past several years resided in South and Central America, coming to the United States following the recent war, where she has filed a declaration of intention to become a United States citizen (July 26).

S-259 revokes student pilot certificate of Donald T. Fisher, for carrying his 6-year-old son as a passenger (July 26).

S-260 amends order revoking pilot certificate of Ruth C. Tansey to permit issuance of a certificate to her after August 1, 1949 (August 5).

S-261 opinion holds that where reasonable efforts to notify respondent are made by an examiner, service of notice of hearing and of initial decision may be completed by registered mail addressed to respondent's last known address; order denies petition of Samuel Jack Warner, of Washington, D. C., for reconsideration of examiner's order revoking his private pilot certificate on the grounds that he failed to receive notice of a reconvened hearing, although the examiner had notified him by registered mail and by telegraph (August 5).

S-262 suspends private pilot certificate of Morris H. Thomason for 90 days for piloting an aircraft contrary to the traffic pattern and at an altitude of 150 feet over a congested residential area (August 9).

S-263 revokes pilot certificate of Henry Herman Koch, for various violations of the Civil Air Regulations (August 9).

S-264 revokes air carrier operating certificate of Columbia Air Cargo, Inc. (August 15).

S-265 revokes, until May 16, 1950, student pilot certificate of Shrader Hawkins, for carrying a passenger (August 19).

S-266 grants request for waiver of §§ 20.3 and 20.21 of the Civil Air Regulations to permit issuance of student and private pilot certificates to Hans Schott, a native of Germany, who has filed a declaration of intention to become a citizen of the United States (Aug. 26).

S-267 approves for 6 months private pilot certificate of John Sherman Arvidson for piloting an aircraft over a congested area at an altitude which would not permit him to make an emergency landing in the event of engine failure without undue hazard to persons and property on the surface. He was piloting a single-engine civil aircraft on a pleasure flight over a congested area of Los Angeles at an altitude of approximately 2,500 feet when the engine of the aircraft failed, necessitating a forced landing within the city, and in so doing damaged two automobiles and other property. The Board held that under the circumstances an altitude of 2,500 feet was not sufficient to comply with CAR 20.107 (a). (Aug. 26).

S-268 terminates proceedings against Charles Daniel Elms, Jr. (Aug. 29).

S-269 suspends for 40 days airline transport pilot certificate of Joseph B. Kuhn for careless operation of an aircraft in an accident December 16, 1946, when an aircraft which he was piloting overtook and collided with another aircraft near Havre de Grace, Md. (Sept. 2).

S-270 suspends pilot certificate of Thomas E. DeKellis for 90 days from September 16, 1949, or from the date he surrenders his certificate to the Administrator (Sept. 6).

S-271 suspends for 4 months, pilot certificate of James S. Barr, for piloting a seaplane carrying a passenger in acrobatic maneuvers when neither occupant was equipped with a parachute, and for piloting the aircraft in acrobatic maneuvers at an altitude of less than 1,500 feet above the surface (Sept. 8).

S-272 revokes commercial pilot certificate of Harry F. Miller, for piloting an aircraft in a careless and reckless manner over an airport (Sept. 12).

S-273 stays until further order of the Board order serial No. S-219, issued February 4, 1949, as modified by order serial No. S-269, issued September 2, 1949, suspending pilot certificate of Joseph B. Kuhn for a period of 40 days, pending review and decision of the Court of Appeals for the District of Columbia (Sept. 14).

Airline Orders

E-3020 grants certain parties leave to intervene in the matter of the renewal of the certificate held by Southwest Airways and the temporary suspension of certain service of United Air Lines (July 18).

E-3021 grants the Postmaster General and Continental Air Lines leave to intervene in the matter of the application of Clark M. Carr, d. b. a. Cargo Air Service, for a certificate (July 18).

E-3022 grants National Airlines leave to intervene in the matter of the application of the city of Myrtle Beach, S. C., and the South Carolina Aeronautics Commission for amendment of existing certificates (July 18).

E-3023 dismisses proceeding of investigation and suspension in the matter of certain fares, rules, and regulations proposed by Air Transport Associates, Arnold Air Service, Aviation Corporation of Seattle, and Golden North Airways (July 18).

E-3024 amends order serial No. E-2995 so as to permit Transocean Air Lines to utilize twin-engine aircraft on part of its proposed round-the-world flight (July 18).

E-3025 approves agreement between American Airlines and Weser Cab Company relating to pickup and delivery of air freight (July 19).

E-3026 approves agreement between United and Bonanza Air Lines relating to airport ground facilities (July 19).

E-3027 approves agreement between Delta and National for approval of sublease of space (July 19).

E-3028 orders TWA to show cause why the Board should not fix the mail rate as set forth in an attached statement in its trans-Atlantic operations; orders that the proceeding remain open pending an order fixing a final rate (July 20).

E-3029 dismisses proceeding of investigation and suspension instituted in Docket No. 3792, relative to certain rules and regulations proposed by certain air carriers (July 20).

E-3030 approves agreement between United Air Lines and Hawaiian Airlines relating to interline traffic agreement (July 20).

E-3031 approves agreement between TWA and Hawaiian Airlines relating to interline traffic agreement for passenger and cargo (July 20).

E-3032 approves agreements between American Airlines and the Smedley Company relating to termination of agreements (July 20).

E-3033 approves agreement between Capital and Eastern relating to termination of agreement (July 20).

E-3034 approves agreement between Pan American and Eastern relating to charter of one Lockheed Constellation aircraft for a single flight from New York to Miami (July 20).

E-3035 approves agreement between TWA and Northeast Airlines relating to termination of prior agreement (July 20).

E-3036 approves agreement between Eastern and Capital relating to sublease of storage space (July 20).

E-3037 approves agreement between Eastern and United relating to rental of ticket counter (July 20).

E-3038 approves agreement between Western and United relating to joint occupancy of Western's sales office at Las Vegas, Nev. (July 20).

E-3039 approves agreement between United and Southwest Airways relating to commissions on air passenger and cargo transportation (July 20).

E-3040 approves agreement between Continental and Pioneer Air Lines relating to interline reservations arrangements (July 20).

E-3041 approves agreement between Northwest Airlines and Hawaiian Airlines relating to interline ticketing and baggage agreement (July 20).

E-3042 approves agreement between Western and Continental relating to interline reservations arrangements (July 20).

E-3043 approves agreement between Pan American and Caribbean-Atlantic Airlines relating to joint facilities (July 20).

E-3044 orders an investigation of the operations in air transportation of Eugene Joiner of Kotzebue, Alaska (July 21).

E-3045 denies application of Trans-Texas Airways requesting an amendment of its certificate for route No. 82 (July 21).

E-3046 amends order serial No. 2450 so as to permit United to file certain form 41 schedules only, instead of the complete set heretofore required on behalf of Lines Aereas Mineras (July 21).

E-3047 dismisses applications of American Air Transport and Modern Air Transport from the Additional Service to Puerto Rico case (July 21).

E-3048 grants certain parties leave to intervene in the matter of the application of American Airlines requesting change of airport serving Springfield, Mass. (July 21).

E-3049 approves agreement between certain air carriers and British Overseas Airways relating to management and operation of the Grenfell Club (July 21).

E-3050 approves agreement between Capital and All American Airways relating to servicing and maintenance of aircraft radio equipment (July 21).

E-3051 approves agreement between Pan American and Aerovias Brasil relating to facilities and services furnished by Pan American to Aerovias Brasil (July 21).

E-3052 grants the city of Salinas, Calif., and West Coast Airlines leave to intervene in the matter of the renewal of temporary certificate for route No. 76 held by Southwest Airways, and temporary suspension, in part, of certificate for route No. 1 held by United Air Lines (July 21).

E-3053 denies application of Seaboard and Western Airlines requesting an exemption under § 416 (b) of the Act (July 21).

E-3054 grants the Flying Tiger Lines temporary exemption from the provisions of § 401 (a) of the Act, and part 295 of the Economic Regulations, so as to permit the carrier to engage in air transportation of military property only between certain military bases (July 21).

E-3055 denies application of United, Northwest, and Pan American for an exemption order which would permit free air transportation to members of a Coordinating Research Council committee (July 21).

E-3056 grants Empire Air Lines exemption from the provisions of the Act and a condition contained in its certificate, so as to authorize it to begin or terminate, or begin and terminate, trips at points short of terminal points (July 22).

E-3057 authorizes Wisconsin-Central Airlines to suspend service temporarily at Racine-Kenosha, Wis., for a period of 90 days from the date of this order (July 22).

E-3058 denies petition of American Airlines for reconsideration of order serial No. E-2807 requesting authority to suspend service temporarily at Jackson, Mich. (July 22).

E-3059 denies petition of American Airlines for reconsideration of order serial No. E-2808 requesting authority to suspend service temporarily at Abilene, Tex. (July 22).

E-3060 grants Coastal Air Lines temporary exemption from the provisions of § 401 (a) of the Act, and part 291 of the Economic Regulations, so as to permit the carrier to engage in five round-trip flights between New York and Lydda, Israel (July 22).

E-3061 grants Colonial Airlines limited leave to intervene in the matter of the application of Trans-Canada Air Lines for a foreign air carrier permit (July 22).

E-3062 dismisses applications of Gulf Airways and Ozark Air Lines from the reopened Mississippi Valley and Southeastern States cases (July 25).

E-3063 opinion and order approve the acquisition of control of Central Airlines by certain individual applicants, and the interlocking relationships existing as a result of the holding of certain positions by the individual applicants in the Control of Central Airlines, Inc. case (July 25).

E-3064 amends order serial No. E-2400 so as to extend the temporary exemption granted to United Air Lines permitting them to engage in air transportation of military property only between certain United States Air Force bases (July 25).

E-3065 grants United leave to intervene in the matter of the applications of Seaboard & Western Airlines and Transocean Air Lines for certificates authorizing scheduled air transportation of property between the New York-New England-Great Lakes area and the European and Middle Eastern areas (July 26).

E-3066 grants TWA leave to intervene in the matter of the application of Clark M. Carr, d. b. a. Cargo Air Service, for a certificate (July 26).

E-3067 grants the chamber of commerce of Houston, Tex., leave to intervene in the matter of the applications of Val-Air Lines and Trans-Texas Airways for certificates (July 26).

E-3068 approves agreement between Northwest Airlines and Alaska Coastal Airlines relating to interline ticketing and baggage agreement (July 26).

E-3069 approves agreement between Caribbean-Atlantic Airlines and Air France relating to ground services and maintenance facilities (July 26).

E-3070 approves agreement between Pan American and Flota Aerea Mercante Argentina (FAMA) relating to use of facilities and services (July 26).

E-3071 approves agreement between Wien Alaska Airlines and Arnold Air Service, relating to charter of DC-3 aircraft (July 27).

E-3072 denies application of Trans-Pacific Airlines for exemption from the requirements of the Act so as to permit free transportation to members of the press and prominent persons between points in the Hawaiian Islands (July 28).

E-3073 denies application of American Airlines for an exemption under § 416 (b) of the Act, and its notice of nonstop service in foreign air transportation; denies request of Colonial Airlines for consolidation of its application with that of American (July 28).

E-3074 order and opinion issue a temporary certificate to Purdue Aeronautics Corporation authorizing it to operate between Lafayette, Ind., and Chicago, Ill. (July 28).

E-3075 approves agreement between Pan American and Aerovias Guest relating to amendment concerning commissions to standard IATA interline traffic agreement (July 29).

E-3076 extends period of suspension of certain fares, rules, and routings of United Air Lines until November 1, 1949 (July 28).

E-3077 grants Trans-Caribbean Air Cargo Lines temporary exemption from the provisions of § 401 (a) of the Act and part 291 of the Economic Regulations, so as to permit the carrier to engage in two round-trip flights between New York, N. Y., and Israel (July 27).

E-3078 grants Trans-Caribbean Air Cargo Lines temporary exemption from the provisions of § 401 (a) of the Act and part 291 of the Economic Regulations, so as to permit the carrier to engage in two round-trip flights between New York, N. Y., and Prestwick, Scotland (July 27).

E-3079 dismisses proceedings of investigation in the air express rate investigation (July 28).

E-3080 dismisses complaint of Chicago and Southern Air Lines

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Equipment Interchange By American and Delta Gets Approval of CAB

The Civil Aeronautics Board last month approved an interchange of equipment agreement between American and Delta to provide through service to points on American's route No. 4 west of Dallas, and points on Delta's routes Nos. 24 and 54 east of Dallas.

Thus, one-plane service will be provided over a southern transcontinental route from Miami, Jacksonville, Atlanta, Birmingham, New Orleans, and other southern cities on Delta's route, to Los Angeles and San Francisco, and other points on American's route No. 4.

The Board said that the authority for American and Delta to interchange equipment in the present case shall automatically terminate upon the effective date of the Board's order rendering its decision in the *Southern Service to the West* case. To doubly reassure all interested parties in that case, the Board announced that "we want to reaffirm the statement made by the examiner that in the *Southern Service to the West* case, the issue of through-service transportation between points in the south and southeastern parts of the United States and the west coast will be explored fully and the action which is taken in this case will in no way affect that full exploration."

Cockpit Standardization Proposed.—In approving the interchange agreement, the Board recalled that on June 28, 1949, it had issued a "Notice of Proposed Rule Making" in connection with standardization of cockpits of transport aircraft. The Board stated it had reached the conclusion that uniformity in types and arrangement of instruments and controls will aid in resolving the safety aspects of equipment interchange agreements.

In the American-Delta interchange agreement approved, the Board said that the record disclosed that the differences in gyrosyn compass direction indicators found in the DC-6 planes of American and Delta constitute the only differences which would require special training on the part of the pilots who are to be used in the operation of the interchange service. The Board found that the gyrosyn compasses are located in the same position on the planes of both American and Delta, but in one instance the gyrosyn arrow indicator is read from the top of the dial and turns in the direction in which the plane is heading, while in the planes of the other carrier the indicator arrow is read at the bottom of the dial and points in the direction opposite to that in which the plane is being turned. "Under these circumstances," the Board said, "we believe we would be doing less than the utmost for safety if we did not now require uniformity of design and arrangement of the gyrosyn compass used by Delta and American in their equipment interchange. Accordingly, that will be made a condition of our approval of the agreement, it being understood by us that with this change the cockpit arrangement of the DC-6 planes of both carriers will be, for all practical purposes, standardized."

RTCA SC-12 Report Available

The executive committee of the Radio Technical Commission for Aeronautics has accepted the report of its Special Committee 12 on the subject of test procedures and performance requirements for airborne radio receiving equipment operating within the frequency range 100 kilocycles—30 megacycles. The report, identified as paper 83-49/DO-29, dated September 7, 1949, may be obtained from the RTCA secretariat, 1724 F Street, Northwest, Washington 25, D. C., at a cost of 70 cents a copy.

Scheduled Air Carrier Operations

(Source: CAB Form 41)

Domestic: January-July 1949, 1948

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)	
	January-July		January-July		January-July		January-July	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	31,621,368	31,029,718	1,840,120	1,481,154	864,517	694,500	1,307,662	1,171,767
Braniff Airways	6,587,845	6,261,718	337,453	316,375	112,494	110,026	216,769	198,247
Capital Airlines	11,527,172	9,778,827	672,607	576,552	197,171	152,767	387,797	315,109
Chicago & Southern Air Lines	4,320,192	3,916,480	174,241	154,332	61,981	60,377	114,282	103,520
Colonial Airlines	2,230,663	1,596,201	106,878	73,930	28,219	20,605	46,828	33,343
Continental Air Lines	3,326,114	3,152,285	101,445	89,693	36,554	32,878	91,325	64,946
Delta Air Lines	7,519,411	7,602,917	310,499	275,769	127,226	106,960	218,655	205,798
Eastern Air Lines	31,165,446	28,980,799	1,315,961	1,177,149	609,878	603,232	1,047,227	990,889
Inland Air Lines	1,502,974	1,342,137	47,468	41,340	17,212	15,143	29,823	26,265
Mid-Continent Airlines	4,830,790	4,497,729	193,161	177,697	57,379	52,950	101,447	89,877
National Airlines	5,710,230	2,733,867	179,049	81,389	103,125	44,701	220,772	112,855
Northeast Airlines	2,199,011	1,879,866	182,012	148,085	34,515	28,288	69,765	62,521
Northwest Airlines	10,354,548	9,594,115	394,474	356,772	217,709	188,535	379,515	325,662
Transcontinental & Western Air	29,410,319	30,558,956	799,590	680,803	538,943	488,933	905,912	794,559
United Air Lines	29,768,504	33,285,351	1,235,833	1,051,502	723,873	635,971	1,054,660	958,322
Western Air Lines	3,545,095	3,620,789	158,278	157,130	59,608	61,619	120,584	111,021
Trunk total	185,619,682	179,831,758	8,049,069	6,839,672	3,790,950	3,297,485	6,313,023	5,564,701
Index (1948=100)	103.22	100.00	117.68	100.00	114.96	100.00	113.45	100.00
Feeder Lines								
All American Airways	1,375,446	1,008,968	28,992	0	3,734	0	18,369	0
Challenger Airlines	957,298	786,420	17,417	11,330	4,744	2,849	19,367	16,261
Empire Air Lines	610,124	567,315	19,260	11,428	4,119	2,496	12,813	9,999
Florida Airways (ceased opr. 3/28/49)	193,120	479,944	3,626	7,337	984	0	1,542	3,760
Los Angeles Airways	199,179	119,110	0	0	0	0	0	0
Monarch Air Lines	992,073	915,843	16,202	15,008	4,073	3,479	18,256	16,495
Piedmont Aviation	1,644,521	660,292	45,106	15,012	9,730	3,615	34,536	13,869
Pioneer Air Lines	2,207,046	1,740,963	58,030	48,513	15,820	12,775	53,155	41,856
Robinson Airlines	473,618	—	22,476	—	3,357	—	9,420	—
Southern Airways (6/10/49)	103,340	—	1,351	—	218	—	2,184	—
Southwest Airways	1,400,152	1,304,066	65,179	48,861	11,988	8,905	29,405	26,643
Trans-Texas Airways	1,571,300	888,174	23,482	8,318	5,737	1,942	32,997	18,651
West Coast Airlines	720,768	701,677	38,886	38,352	5,056	4,679	15,134	13,410
Wisconsin-Central Airlines	809,410	325,344	15,668	4,355	2,353	762	6,835	2,858
Feeder total	13,257,296	9,528,116	355,075	208,514	71,338	42,486	254,013	163,802
Index (1948=100)	139.14	100.00	170.29	100.00	167.91	100.00	155.07	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	361,687	236,105	52,782	43,782	3,862	2,725	8,917	5,974
Hawaiian Airlines	1,641,342	1,862,635	182,668	197,669	25,127	27,807	36,403	41,047
Territorial total	2,003,029	2,098,740	235,450	241,481	28,989	30,532	45,320	47,021
Index (1948=100)	95.44	100.00	97.50	100.00	94.95	100.00	96.38	100.00
Grand total	200,880,007	191,458,614	8,639,594	7,289,667	3,891,277	3,370,503	6,612,356	5,775,524
Index (1948=100)	104.92	100.00	118.52	100.00	115.45	100.00	114.49	100.00

Operator	Revenue passenger-load factor (percent)		Express		Freight		U. S. Mail	
	January-July		January-July		January-July		January-July	
	1949	1948	1949	1948	1949	1948	1949	1948
Trunk Lines								
American Airlines	66.11	59.27	2,798,552	3,084,217	16,402,567	10,771,189	5,043,454	3,948,724
Braniff Airways	51.90	55.50	429,293	502,658	567,240	625,324	606,079	514,496
Capital Airlines	50.98	48.48	847,289	1,117,724	3,326,443	2,395,547	571,289	470,155
Chicago & Southern Air Lines	54.24	58.32	287,661	354,509	311,624	305,807	300,047	246,076
Colonial Airlines	60.26	61.80	33,035	29,382	59,581	16,837	53,491	33,870
Continental Air Lines	40.03	50.62	54,803	55,716	202,466	145,472	120,402	92,520
Delta Air Lines	58.19	51.97	381,411	490,024	925,412	926,855	513,768	512,314
Eastern Air Lines	58.24	60.88	1,907,270	2,128,433	4,656,020	2,862,291	2,826,746	2,357,111
Inland Air Lines	57.71	57.65	37,199	29,594	71,921	39,661	68,102	57,634
Mid-Continent Airlines	56.56	58.91	109,356	107,817	187,523	157,947	179,125	156,658
National Airlines	46.71	39.61	270,340	352,499	612,191	435,881	337,769	146,299
Northeast Airlines	49.47	45.25	42,039	55,752	122,471	91,885	50,395	35,282
Northwest Airlines	57.37	57.89	870,330	947,526	2,389,264	917,235	1,370,738	1,192,179
Transcontinental & Western Air	59.49	61.54	2,554,729	3,227,256	6,443,187	4,933,330	5,217,554	5,113,618
United Air Lines	68.64	66.36	3,255,319	3,997,778	12,495,828	10,457,438	5,698,081	4,632,994
Western Air Lines	49.43	53.50	141,004	167,805	252,839	378,704	197,220	254,241
Trunk total	60.05	59.26	14,019,630	16,649,140	49,226,577	35,461,403	23,154,260	19,774,801
Index (1948=100)	101.33	100.00	84.21	100.00	138.82	100.00	117.09	100.00
Feeder Lines								
All American Airways	20.33	—	25,056	18,186	0	0	24,604	21,434
Challenger Airlines	21.50	17.52	20,618	9,319	43,699	20,361	22,392	16,122
Empire Air Lines	32.15	24.96	7,981	4,702	0	0	11,527	11,678
Florida Airways (ceased opr. 3/28/49)	26.52	26.17	660	2,451	0	0	1,812	4,439
Los Angeles Airways	—	—	0	0	0	0	25,100	12,829
Monarch Air Lines	22.31	21.09	10,410	8,123	49,080	44,923	14,119	13,704
Piedmont Aviation	28.17	26.07	19,139	5,426	39,372	3,884	17,707	9,520
Pioneer Air Lines	29.76	30.52	15,704	10,932	35,484	15,867	47,003	30,705
Robinson Airlines	35.64	—	—	—	9,409	—	9,372	—
Southern Airways (6/10/49)	9.98	—	2,157	—	0	—	1,954	—
Southwest Airways	40.77	33.42	18,469	15,954	53,668	39,373	27,670	23,355
Trans-Texas Airways	17.39	10.41	9,717	4,411	6,697	2,728	35,205	10,254
West Coast Airlines	33.41	34.89	6,759	5,869	0	0	5,621	7,100
Wisconsin-Central Airlines	34.43	26.66	9,946	4,349	0	0	9,960	4,367
Feeder total	28.08	25.94	146,616	89,722	227,409	127,136	254,016	163,129
Index (1948=100)	108.25	100.00	163.41	100.00	178.87	100.00	155.73	100.00
Territorial Lines								
Caribbean-Atlantic Airlines	43.31	45.61	0	0	18,657	3,618	4,621	3,098
Hawaiian Airlines	69.02	67.74	74,743	77,154	295,748	318,809	33,313	21,549
Territorial total	63.97	64.93	74,743	77,154	314,405	322,427	37,934	24,647
Index (1948=100)	98.52	100.00	96.88	100.00	97.51	100.00	153.91	100.00
Grand total	58.85	58.36	14,240,989	16,816,016	49,768,391	35,910,966	23,446,240	19,962,577
Index (1948=100)	100.84	100.00	84.69	100.00	138.59	100.00	117.45	100.00

Certificated Carriers Continue to Increase Volume of Air Cargo

The volume of air cargo carried by certificated domestic and international United States air carriers continued to expand sharply during the first 7 months of 1949. Total express and freight flown during the period amounted to 96,339,574 ton-miles, an over-all increase of 28 percent over the 75,470,010 ton-miles flown during the corresponding months of 1948.

The domestic airlines accounted for approximately two-thirds of the total, or 64,009,380 ton-miles, of which 49,768,391 ton-miles was air freight and 14,240,989 ton-miles was air express. The air freight figure represents a 39 percent gain over last year but air express dropped 15 percent behind 1948, indicating that some former users of air express have been turning to air freight, which offers substantially the same service at considerably lower rates.

Gains in International Field.—In the international field, total air cargo amounted to 32,330,194 ton miles as against 22,743,028 ton-miles during the same 7 months of 1948. This total represented 28,294,043 ton-miles of express, up 36 percent over last year, and 4,036,151 ton-miles of freight, up 111 percent over 1948.

Industry sources estimate that if the current rate of growth is maintained throughout the remainder of 1949, domestic and international scheduled air carriers will haul close to 190,000,000 ton miles of cargo this year—a gain of 29 percent over 1948.

Aircraft Engine Shipments Declined in July Over June

The civil aircraft engine industry's shipments for July were valued at \$3,319,000, 20 percent less than in June. July shipments included 286 engines representing an output of 86,100 horsepower, compared with 364 engines and 95,900 horsepower a month earlier. A year ago, civil aircraft engine industry shipments totaled 636 engines, with a horsepower output of 126,600 and were valued at \$3,375,000.

Comparative figures on civil aircraft engine shipments for June and July 1949 and for July 1948 show:

Civil Engine Shipments, July 1949

	1949		1948
	July	June	July
Number.....	286	364	636
Horsepower output (000).....	86.1	95.9	126.6
Value (\$000).....			
Engines.....	\$1,060	\$1,110	\$1,089
Parts.....	1,818	2,673	2,116
Other products.....	441	376	170

Certificate Amendment Recommended

An examiner for the Civil Aeronautics Board last month recommended that the Board grant the application of Chicago & Southern Air Lines for amendment of its certificate so as to eliminate Peoria and Springfield, Ill., as intermediate points on route No. 8.

Newport News Service Authorized

The Civil Aeronautics Board on September 16 authorized scheduled air transportation of persons, property and mail to Newport News, Va., the first time such service has been authorized to this point. The Board authorized Capital Airlines and Piedmont Aviation, a feeder air carrier, to provide the new service.

Scheduled Air Carrier Operations

(Continued on page 116)

Domestic: July 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor per cent	Ton-miles flown		
						Express	Freight	U. S. Mail
Trunk lines								
American Airlines.....	4,973,492	295,079	136,508	211,977	64.40	377,634	2,031,715	602,155
Braniff Airways.....	1,046,693	53,671	17,973	35,630	50.44	58,194	94,868	83,934
Capital Airlines.....	1,866,216	124,115	36,528	64,177	56.92	114,075	472,676	73,982
Chicago & Southern Air Lines.....	680,864	27,352	9,411	18,626	50.53	42,551	55,244	37,611
Colonial Airlines.....	431,586	22,447	5,595	9,095	61.52	6,446	7,506	7,283
Continental Air Lines.....	500,187	17,202	6,319	14,405	43.87	8,583	27,148	16,617
Delta Air Lines.....	1,121,167	45,339	17,086	32,493	52.58	50,023	144,978	59,131
Eastern Air Lines.....	4,441,238	192,672	81,145	150,866	53.79	235,493	546,197	328,841
Inland Air Lines.....	256,844	8,657	3,303	5,150	64.14	5,239	11,130	10,005
Mid-Continent Airlines.....	780,702	30,831	9,134	16,395	55.71	17,673	26,615	24,719
National Airlines.....	917,802	25,751	13,779	33,383	41.28	29,177	65,235	36,464
Northeast Airlines.....	409,016	40,317	7,708	13,521	57.01	7,242	16,829	6,276
Northwest Airlines.....	1,765,916	73,647	44,146	65,998	66.89	125,423	295,246	187,193
Transcontinental & Western Air.....	4,521,745	134,484	92,060	142,041	64.81	346,452	778,652	625,608
United Air Lines.....	4,928,769	224,161	130,649	177,000	73.81	436,809	1,690,859	787,796
Western Air Lines.....	614,935	25,975	10,105	21,072	47.95	23,590	27,143	27,282
Trunk total.....	29,257,172	1,341,700	621,449	1,011,829	61.42	1,884,604	6,292,041	2,914,897
Feeder Lines								
All American Airways.....	243,081	11,307	1,547	5,834	26.52	4,421	0	2,380
Challenger Airlines.....	137,014	3,792	976	2,740	35.62	2,993	4,927	3,420
Empire Air Lines.....	93,561	3,206	660	1,965	33.59	1,320	0	1,749
Los Angeles Airways.....	27,486	0	0	0	0	0	0	3,177
Monarch Air Lines.....	156,706	3,396	832	2,821	29.49	1,629	10,185	2,085
Piedmont Aviation.....	278,322	9,566	2,037	5,845	34.85	3,336	3,374	2,285
Pioneer Air Lines.....	342,567	9,430	2,589	8,223	31.48	2,835	6,070	5,903
Robinson Airlines.....	78,229	3,808	564	1,495	37.73	0	1,458	1,372
Southern Airways.....	83,550	1,109	182	1,774	10.26	1,454	0	1,286
Southwest Airways.....	210,744	11,933	2,172	4,426	49.07	2,878	5,379	3,535
Trans-Texas Airways.....	262,400	4,661	1,119	5,510	20.31	1,187	1,504	4,202
West Coast Airlines.....	118,322	8,623	1,112	2,485	44.75	1,432	0	801
Wisconsin-Central Airlines.....	139,466	3,867	609	1,203	50.62	1,681	0	1,545
Feeder total.....	2,171,448	74,698	14,399	44,321	32.49	24,266	32,897	33,740
Territorial Lines								
Caribbean-Atlantic Airlines.....	49,039	7,344	556	1,205	46.14	0	2,808	525
Hawaiian Airlines.....	279,049	31,716	4,314	6,225	69.30	7,796	46,817	5,437
Territorial total.....	328,088	39,060	4,870	7,430	65.55	7,796	49,625	5,962
Grand total.....	31,756,708	1,455,458	640,718	1,063,580	60.24	1,916,666	6,374,563	2,954,599

Airport Advisory Committee To Submit Recommendations

(Continued From Page 109)

of the committee. On the second day, representatives of the aviation industry and related activities discussed many problems common to their work and to that of committee members, with each talk again followed by forum discussion. The committee held two meetings on the third day to discuss the recommendations submitted during the meetings and to formulate formal recommendations to the Administrator.

"We want to utilize the vast fund of managerial experience and knowledge of leading figures in airport operation and management", Mr. Rentzel said in announcing personnel of the committee. "The CAA's two major airport tasks today are the creation and construction of an adequate national airport system, and better service to the airports now in existence. We have selected membership carefully so that every phase of airport operation, management and maintenance will be represented. The membership also represents geographical areas. We intend, also, to use leaders in specialized airport activities, both aeronautical and non-aeronautical, for advice, to widen still further the scope of this industry advisory service to the CAA."

Problems of Terrain Flying Discussed in CAA Booklet

Advice and warnings distilled from the experience of veteran pilots in many long hours of flight will be found in the pocket-size CAA booklet, "Terrain Flying." The booklet is largely for the pilot who may fly a small sport plane in strange territory with a minimum of instruments and probably no radio.

Four major groups of problem terrain are discussed: the Allegheny Mountains, the Rocky Mountains, swamp areas and desert regions. Three other classifications, although not of the nature or extent of the first four, are considered. These are: cities and industrial areas, bad lands, cut-over lands, forests, and frozen wastes; and oceans, bays and lake shores.

Since Alaska is in a class by itself, the Territory and routes leading to it are discussed in a separate chapter. There is also a chapter on Mexico.

The 82-page, illustrated booklet is available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. It costs 25 cents.

Publication Has Navigation Information

Practical information about basic navigation of aircraft is presented in brief form for use of the private pilot in "Path of Flight," a Civil Aeronautics Administration publication on sale at 40 cents a copy by the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Scheduled Air Carrier Operations

(Continued from page 115)

International and Overseas: January-June 1949, 1948

Operator	Revenue miles		Revenue passengers		Revenue passenger-miles (000)		Passenger seat-miles (000)		Revenue passenger load factor (percent)	
	January-June		January-June		January-June		January-June		January-June	
	1949	1948	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	1,115,395	1,107,217	39,153	31,614	32,105	23,302	51,392	42,289	62.47	55.10
American Overseas Airlines	3,723,485	3,323,744	39,435	27,427	80,769	70,437	137,214	126,194	58.86	55.82
Braniff Airways	729,967	69,544	6,091	288	12,047	446	33,198	3,407	36.29	13.09
Chicago & Southern Air Lines	718,488	245,915	11,917	5,722	13,071	3,920	35,609	11,067	36.71	35.42
Colonial Airlines	367,018	342,185	7,283	9,526	5,746	7,483	16,125	14,875	35.63	50.31
Eastern Air Lines	376,480	376,600	7,425	7,945	8,149	8,256	19,044	21,010	42.79	39.30
National Airlines	308,876	183,207	26,319	10,776	7,691	3,348	14,995	8,423	51.29	39.75
Northwest Airlines	2,905,028	2,027,567	17,811	12,341	35,677	24,523	69,868	47,761	51.06	51.35
Pan American Airways										
Atlantic Division	6,997,487	6,096,146	60,922	54,474	141,898	127,887	221,284	198,311	64.12	64.49
Latin American Division	14,759,050	14,217,728	363,959	342,812	290,352	271,558	529,013	525,312	54.89	51.69
Alaska Operations	1,224,562	1,212,215	16,784	14,486	17,260	14,627	35,201	36,708	49.03	39.85
Pacific Operations	7,578,627	7,389,491	41,891	41,379	121,702	126,232	189,610	183,142	64.19	68.93
Pan American-Grace Airways	2,859,780	2,814,919	47,193	47,444	55,033	52,802	94,813	86,844	58.04	60.80
Transcontinental & Western Air	6,455,837	5,458,822	45,701	32,221	131,721	101,697	214,810	186,989	61.32	54.39
United Air Lines	1,162,585	876,000	13,545	8,375	32,072	20,099	49,411	33,076	64.91	60.77
Uruba, Medellin & Central Airways	51,476	78,400	1,613	1,162	535	387	829	1,245	64.54	31.08
Total	51,334,141	45,819,700	747,042	647,992	985,828	857,004	1,712,416	1,526,653	57.57	56.14
Index (1948=100)	112.04	100.00	115.29	100.00	115.03	100.00	112.17	100.00	102.55	100.00

Operator	Ton-Miles Flown							
	Express		Freight		U. S. Mail		Parcel Post	
	January-June		January-June		January-June		January-June	
	1949	1948	1949	1948	1949	1948	1949	1948
American Airlines	0	0	620,791	753,426	66,493	40,616	0	0
American Overseas Airlines	2,184,339	887,200	0	0	643,790	657,076	171,117	47,477
Braniff Airways	0	0	91,620	3,082	8,763	772	0	0
Chicago & Southern Air Lines	0	0	149,693	50,868	4,656	724	292	0
Colonial Airlines	0	0	43,055	28,787	4,128	3,769	640	218
Eastern Air Lines	0	0	287,527	200,408	26,895	21,228	3,843	0
National Airlines	140,548	107,295	0	0	6,446	6,114	0	0
Northwest Airlines	49,550	23,576	2,085,594	544,717	974,136	567,392	0	0
Pan American Airways								
Atlantic Division	4,324,687	2,355,381	0	0	1,182,153	1,238,318	171,084	51,903
Latin American Division	9,332,883	8,762,322	0	0	1,340,668	1,336,584	0	0
Alaska Operations	1,878,344	1,179,634	0	0	203,745	186,209	0	0
Pacific Operations	2,693,093	1,777,609	0	0	2,660,856	1,790,433	0	0
Pan American-Grace Airways	740,845	778,506	231,842	5,908	169,333	99,460	12,049	0
Transcontinental & Western Air	3,290,287	1,694,448	0	0	1,247,971	1,177,320	238,793	91,936
United Air Lines	105,567	62,732	0	0	394,894	185,308	0	0
Uruba, Medellin & Central Airways	19,891	23,908	0	0	0	0	0	0
Total	24,760,034	17,652,611	3,510,122	1,587,196	8,934,927	7,311,323	597,818	191,534
Index (1948=100)	140.26	100.00	221.15	100.00	122.21	100.00	312.12	100.00

International and Overseas: June 1949

Operator	Revenue miles	Revenue passengers	Revenue passenger-miles (000)	Passenger seat-miles (000)	Revenue passenger load factor (percent)	Ton-Miles Flown			
						Express	Freight	U. S. Mail	Parcel Post
American Airlines	180,522	7,162	5,325	8,567	62.16	0	93,467	11,365	0
American Overseas Airlines	737,968	8,286	19,868	29,106	68.26	211,581	0	83,550	29,664
Braniff Airways	139,475	1,330	2,779	6,486	42.85	0	16,392	2,003	0
Chicago & Southern Air Lines	128,415	2,299	2,697	6,421	42.00	0	22,482	744	35
Colonial Airlines	53,170	1,150	965	2,339	38.69	0	1,612	657	112
Eastern Air Lines	62,400	1,820	1,893	3,056	61.94	0	63,540	4,447	1,417
National Airlines	54,763	4,786	1,397	2,660	52.52	19,377	0	1,130	0
Northwest Airlines	484,520	3,888	7,878	12,377	63.65	8,373	337,751	134,281	0
Pan American Airways									
Atlantic Division	1,551,293	12,715	32,409	52,643	61.56	766,495	0	192,492	39,632
Latin American Division	2,352,395	57,805	54,367	89,861	60.50	1,318,656	0	217,151	0
Alaska Operations	224,552	3,963	3,854	6,723	57.33	397,411	0	39,385	0
Pacific Operations	1,178,882	8,962	25,944	34,262	75.72	560,311	0	426,274	0
Pan American-Grace Airways	464,059	6,935	7,728	15,819	48.85	138,179	0	25,532	1,943
Transcontinental & Western Air	1,303,918	10,520	29,661	43,340	68.44	504,121	0	209,629	40,607
United Air Lines	206,400	3,320	7,968	8,954	88.99	32,987	0	48,057	0
Uruba, Medellin & Central Airways	8,632	87	87	144	60.42	2,584	0	0	0
Total	9,131,364	135,203	204,760	322,758	63.44	3,960,075	535,244	1,396,697	113,410

Domestic: Passenger-miles flown (total revenue and nonrevenue, in thousands)

	January	February	March	April	May	June	July	Total
Trunk	436,938	440,903	541,986	585,751	616,776	689,168	650,014	3,961,536
Feeder	6,714	7,545	9,821	11,529	12,771	14,415	15,619	78,414
Territorial	4,326	3,709	3,794	4,404	3,987	4,155	4,934	29,309
Total	447,978	452,157	555,601	601,684	633,534	707,738	670,567	4,069,259

Accident Reports Civil Aeronautics Board

Mistake Made in Loading.—Nine pouches of mail, loaded by mistake, caused the accident in Los Angeles January 21, 1949, when the pilot of a helicopter was fatally injured, the CAB accident report states. Improper loading of the aircraft with respect to the center of gravity was given as the probable cause of the accident.

The nine pouches, weighing 244 pounds, had been just delivered but were inadvertently reloaded with the outgoing mail, the accident report stated.

Immediately following take-off, the aircraft assumed an extreme nose-down attitude while moving forward and struck the parapet on the roof of the Post Office building. The aircraft fell 62 feet to the street below and was destroyed. The pilot was killed.

According to an air mail dispatch record completed by employees of the Post Office, 34 mail pouches weighing 750 pounds were loaded on the aircraft, the accident report said. It was indicated that 603 pounds were placed in the forward compartment and 147 pounds in the aft compartment. Had this been correct, the aircraft would have been properly loaded with respect to the center of gravity.

Immediately following the crash, the mail pouches were removed and weighed. "Forty-three pouches weighing 994 pounds were removed," the accident report stated. "Nine of these pouches, weighing 244 pounds, had been just delivered to the Los Angeles Post Office department but were inadvertently reloaded with the outgoing mail. As a result the total weight of the mail at the time of take-off was 994 pounds, rather than 750 pounds as indicated by the air mail dispatch record and the pilot's flight report. The pilot had no knowledge of this additional load, since he received his information as to the number of pouches and total weight from the Post Office department.

"The aft compartment of the aircraft holds only 150 pounds of mail because of space limitation. At the time of take-off 147 pounds of mail had been loaded in the aft compartment and 847 pounds in the forward compartment which included the 244 additional pounds mentioned above. The maximum weight that can be carried in the forward compartment, with 147 pounds in the aft compartment, is 618 pounds and still have the center of gravity of the aircraft within the approved limits. This additional weight in the forward compartment over the maximum allowable of 618 pounds moved the center of gravity 2.31 inches forward of the maximum allowable position. Although the aircraft was improperly loaded with respect to the center of gravity, the total weight aboard was within the certificated limit of 5,300 pounds."

Los Angeles Airways now employs a loading inspector on the roof of the Post Office building to assist pilots in the proper loading of aircraft and a new take-off procedure has also been instituted since the accident, the report said.

Safety Belt Insecurely Fastened.—Failure of the pilot to fasten his safety belt securely which resulted in temporary loss of control of the airplane in unexpectedly severe turbulence was given as the probable cause of an accident near Concord, Pa., April 23, 1949, in which a personal aircraft of Canadian registry was extensively damaged in a landing prompted by severe turbulence. Glen Willis House, the pilot, and his wife, who was riding as a passenger, sustained no injuries other than minor bruises.

Pilot House had recently purchased the airplane and was ferrying it from the factory in Riverdale, Md., to his home in Calgary, Alberta, Canada. En route he landed at Harrisburg, Pa., and refueled. When he took off from Harrisburg, weather conditions over his intended route were reported as clear with westerly

winds of increasing velocity up to 30 miles per hour.

Approximately 25 minutes after leaving Harrisburg, the flight encountered severe turbulence while flying at an altitude of 1,000 feet above the terrain in the vicinity of Concord. During this period of turbulence, the pilot's safety belt, which was insecurely fastened, allowed him to be thrown repeatedly against the plexi-glass top, which ultimately broke, permitting his head and shoulders to go through.

The pilot lost control of the aircraft and before he could attempt recovery, the plane was spiralling down toward the side of the mountain well below the peak. The pilot stated that he then had difficulty in controlling the aircraft and therefore decided to land immediately in the only clearing ahead. By the use of power he reached this clearing, cut the switch, and intentionally stalled the aircraft into the side of the hill from an altitude of about 25 to 30 feet.

Although the airplane was damaged considerably in the landing, examination of the wreckage disclosed no evidence of failure or malfunctioning in flight.

Approach Procedure Cited.—Failure to follow approved instrument approach procedures while making an initial approach at an altitude insufficient to clear trees along the flight path was the probable cause of a crash near Yakutat, Alaska, November 27, 1947, fatal to 11 passengers and a crew of 2, the CAB found.

The plane, owned and operated by Columbia Air Cargo, was on a return trip to Portland, Oreg., from Fairbanks, Alaska. A stop had been made at Anchorage, and another stop was planned at Yakutat.

A minute before the crash, the flight, which 10 minutes earlier had reported that a "straight in" approach was being made to Yakutat, was in contact with Yakutat Radio. About the same time, the aircraft was heard flying low over a residence 300 feet south of Yakutat Radio station, and seconds later was heard to explode.

Investigation disclosed that first contact was made by the left wing when it struck a 140-foot spruce tree 1 mile, and on a bearing of 70 degrees, from the CAA Yakutat Radio station. The left wing was separated from the aircraft at the time it struck the tree. The aircraft then plunged to the ground and burned in a densely wooded area.

Two days earlier, there had been some trouble with the left engine, and the Board found that the flight may have experienced failure of the left engine prior to the crash. There was no other indication of mechanical or structural failure prior to the crash, the Board's report stated.

"Even though there had been a failure of the left engine, there should have been little trouble maintaining altitude since the airplane was lightly loaded at the time of the crash," the Board said. "Thus, it appears that the only explanation for the airplane striking the spruce tree is that it was flown too low during the straight-in approach to Yakutat Airport."

"The last 100 miles of this flight to Yakutat was made over water and the pilot in his attempt to become contact may have descended over the water too low to clear the trees near Yakutat," the Board added.

A straight-in approach had not been approved by the Administrator for aircraft approaching Yakutat from the northwest for the reason that at the time no radio facility was located on the northwest course of the Yakutat range from which a suitable fix could be obtained before descending to a minimum approach altitude of 500 feet. The standard radio range approach to Yakutat as approved by the Administrator required the airplane to be flown over the Yakutat Range station at an altitude of 1,500 feet and execute a normal instrument let-down to the airport after turning on to the northwest leg.

Sufficient Altitude Not Maintained.—A Chicago and Southern Air Lines flight from Maiquetia, Venezuela, via Havana, to New Orleans, La., struck several trees while making an ILS (instrument landing system) approach to Moisant Airport, New Orleans, March 13, 1949. The airplane, although damaged considerably, was still controllable and flight was continued to a normal landing on Moisant Airport without injury to anyone on board.

The CAB determined that the probable cause of the accident was failure of the flight to maintain sufficient altitude to clear obstructions during a simulated ILS approach.

The first officer stated that as they neared the middle marker, he noticed that the airplane seemed to be much lower than the glide path receiver indicated and he notified the captain that they were too low. Power was immediately applied and landing gear retraction begun. Almost simultaneously the airplane began striking the tops of cypress trees 90 to 100 feet in height. As soon as the captain realized that the airplane was still controllable, he lowered the landing gear and continued straight ahead to a normal landing.

After seven flight checks by a specially equipped CAA plane had shown that ILS equipment was functioning normally in every respect, the glide path receiver was removed from the airplane involved in the accident and installed in another aircraft for checking, which revealed that the ILS receiver was out of calibration and that the cross-pointer indicator did not give sufficient warning to the pilot when the airplane was below the glide path. Subsequent laboratory tests confirmed that this receiver was not calibrated properly.

The Board found that the ILS equipment "was calibrated in such a manner that if the pilot depended solely on its readings in making an ILS approach to the minimum altitude, he would be misled as to his position. However, sufficient alertness to other means at the crew's disposal for determining the flight's altitude would have precluded descending so dangerously low during the approach. The altimeters were properly set and as far as could be determined were functioning normally."

CAM Supplements and Aviation Safety Releases

Issued between August 15 and September 15 and obtainable from the Office of Aviation Information, Civil Aeronautics Administration, Department of Commerce, Washington 25, D. C.

CAM Supplements

CAM No.	Supplement No.	Title	Date
3	3	Proof of Structure	8/31/49
4	4	Cross Index to Part 3	9/1/49
26	1	Qualifications for Air Traffic Control Tower Operator Ratings	8/23/49
40	1	Cross Index to Part 40	9/15/49

Aviation Safety Releases

No.	Subject	Date
324	ANC-5a "Strength of Metal Aircraft Elements," Revised May 1949	8/19/49
325	Protection of Pilots Against the Potential Hazard of Poisoning by Some Agricultural Chemicals	8/26/49
326	Adherence to Airport Traffic and Taxi Patterns	8/26/49

Official Actions . . . Civil Aeronautics Board

(Continued from Page 113)

relative to property rates and charges proposed by Pan American (July 29).

E-3081 approves application of Northwest Airlines for a loan from the Reconstruction Finance Corporation in the amount of \$21,000,000 (July 29).

E-3082 opinion and order issue an amended certificate to Eastern for route No. 6 (July 28).

E-3083 denies motion of West Coast Airlines requesting severance of certain portions of the *Southwest Renewal-United Suspension* case for consolidation into the *West Coast Certification Renewal* case, and deferral of suspension of all proceedings relative to Medford-Klamath Falls service; defers motion for further consideration (July 29).

E-3084 dismisses application of Herman O. Anderson and Harold W. Gunn for a certificate (Aug. 1).

E-3085 opinion and order issue temporary certificates for the transportation of property to the Flying Tiger Line, Slick Airways, U. S. Airlines, and Airnews for routes numbered 100, 101, 102-A, and B, and 103, respectively (July 29).

E-3086 approves agreement between Pan American and British South American Airways, relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3087 approves agreement between Pan American and KLM relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3088 approves agreement between Pan American and Linea Aeropostal Venezolana relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3089 approves agreement between Pan American and Scandinavian Airlines System relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3090 approves agreement between Pan American and Philippine Air Lines relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3091 approves agreement between Pan American and British Overseas Airways relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3092 approves agreement between Pan American and Trans-Canada Air Lines relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3093 approves agreement between Pan American and British Commonwealth Pacific Airlines relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3094 approves agreement between Pan American and Braniff relating to amendment, concerning commissions, to standard IATA interline traffic agreement (July 29).

E-3095 approves agreement between American and Trans-Canada Air Lines relating to consolidated airport ground services and facilities (July 29).

E-3096 approves agreement between Eastern and Northwest Airlines relating to standard IATA interline traffic agreement (July 29).

E-3097 approves agreement between Eastern and Air France relating to commissions between the carriers for the sale of passenger and cargo transportation (July 29).

E-3098 approves agreement between Pan American-Grace Airways and United relating to standard IATA interline traffic agreement and amendment (July 29).

E-3099 approves agreement between TWA and Indian Overseas Airlines relating to international interline passenger agreement (July 29).

E-3100 approves agreement between Eastern and Braniff relating to interline traffic agreement and commission amendment thereto (July 29).

E-3101 approves agreement between American Overseas Airlines and KLM Royal Dutch Airlines relating to rental of space at Sloane Street terminal, London, Eng. (July 29).

E-3102 approves agreement between American and Robinson Airlines relating to joint use of station services at Chemung County Airport, Elmira, N. Y. (July 29).

E-3103 approves agreement between Pan American and United relating to amendment concerning commissions (July 29).

E-3104 approves agreement between American and TWA relating to routine maintenance service on reciprocal basis (July 29).

E-3105 approves agreement between Pan American and Philippine Air Lines relating to consolidated ground services and facilities at Midway, Wake, and Guam (July 29).

E-3106 extends the period of investigation and suspension in the matter of certain fares, charges, rules, and regulations proposed by National Airlines (Aug. 1).

E-3107 approves agreement between Eastern and Empire, Pioneer, Challenger, Mid-Continent, Piedmont, Northeast, National, Wisconsin-Central, Southwest and Lineas Aereas Mexicanas relating to commissions on sales of international passenger and cargo transportation between Eastern and the carriers listed (Aug. 4).

E-3108 grants Northwest Airlines exemption for 1 year from the provisions of section 403 (b) of the Act, so as to permit free transportation to technical employees of certain companies associated in the development of Boeing 377 aircraft (Aug. 2).

E-3109 approves agreements between TWA and Northeast, National, Pioneer, Piedmont, and Empire relating to international airline traffic agreements between TWA and the parties recorded above (Aug. 4).

E-3110 institutes a proceeding to determine whether W. R. Grace & Company is in violation of section 408 of the Act; consolidates proceeding with the investigation of the routes and property of National Airlines (Aug. 2).

E-3111 grants certain parties leave to intervene in the *Parks Investigation* case; denies petition of the Minot, N. D., Association of Commerce for leave to intervene (Aug. 4).

E-3112 dismisses the proceeding in the matter of fares, rules, and regulations proposed by Alaska Airlines and Northern Consolidated Airlines (Aug. 5).

E-3113 dismisses proceeding in the matter of the fares, rules, and regulations proposed by Robinson Airlines (Aug. 5).

E-3114 dismisses proceeding in the matter of the fares, rules, and regulations proposed by Mid-Continent Airlines (Aug. 5).

E-3115 order and opinion amend certificate of Cordova Air Service in the service in Copper River and Prince William Sound area. Approved by the President August 5, 1949 (May 20).

E-3116 grants Monarch Air Lines an exemption until March 30, 1950, so that it may serve Durango, Colo.; rescinds certain other orders concerning Monarch's service pattern (Aug. 5).

E-3117 denies petitions for reconsideration in the *Skycruise* case (Aug. 4).

E-3118 grants the city of Westfield, Mass., and the Westfield Chamber of Commerce leave to intervene in the matter of the application of American Airlines requesting change of airport serving Springfield, Mass. (Aug. 8).

E-3119 grants Chicago and Southern Air Lines, Mid-Continent Airlines and National Airlines leave to intervene in the *Transcontinental Coach Type Service* case (Aug. 8).

E-3120 opinion and order issue an amended certificate to Continental Air Lines for route No. 29 in the *Continental Route Consolidation* case; denies application of Braniff for elimination of its operating restriction on Denver-Tulsa service along route No. 9 (July 28).

E-3121 denies application of Colonial Airlines requesting exemption under § 416 (b) of the Act, so as to amend its certificate for certain routes (Aug. 9).

E-3122 consolidates portion of application of Colonial, Docket No. 3872, and application of American, Docket No. 3853, into one proceeding to be known as the *Service to Toronto* case (Aug. 9).

E-3123 denies motion of Colonial requesting dismissal of application of Trans-Canada Air Lines for a foreign air carrier permit authorizing service between Montreal, Quebec, Canada, and New York City; grants Colonial leave to intervene in the proceeding (Aug. 9).

E-3124 denies motion of Colonial requesting declaratory ruling and postponement of further action in the matter of the application of American Airlines for a certificate authorizing nonstop service between New York City and Toronto, Canada (Aug. 9).

E-3125 denies motion of Colonial requesting that the Board grant its application for exemption in Docket No. 3873, and schedule an immediate rehearing conference on applications in Dockets numbered 3871 and 3872 (Aug. 9).

E-3126 grants Trans-Texas Airways permission to serve Coleman, Tex., on route No. 82 through the use of Coleman Municipal Airport on or after August 15, 1949 (Aug. 9).

E-3127 opinion and order approve the transfer of the temporary certificate of Roscoe Turner Aeronautical Corporation for route No. 88 to Turner Airlines (Aug. 9).

E-3128 fixes the temporary mail rate for TWA in its trans-Atlantic operations; orders that the proceeding remain open pending a final rate (Aug. 10).

E-3129 authorizes Monarch to omit the stop at Price, Utah, daily on one night north-bound flight over segment 1 of route No. 73 until adequate night lighting facilities at the airport are available (Aug. 10).

E-3130 orders Mt. McKinley Airways to show cause why its letter of registration No. 737 should not be revoked for knowing and willful violations of the act (Aug. 10).

E-3131 orders the Yellow Cab Company of Cleveland, Inc., to show cause why the Board should not direct that its temporary certificate shall cease to be effective (Aug. 10).

E-3132 amends order serial No. E-2781, requiring surveys and special reports in the matter of the investigation of the routes and property of National Airlines (Aug. 10).

E-3133 grants All American Airways exemption from the provisions of § 401 (a) of the Act, so as to permit a change in service pattern of route No. 97 (Aug. 11).

E-3134 enlarges the proceeding in the matter of the noncertificated operations of Alaska Airlines (Aug. 12).

E-3135 grants the city of Birmingham, Ala., leave to intervene in the through service proceedings (Aug. 12).

E-3136 orders portion of application of American Airlines severed from Docket No. 2896 and assigned Docket No. 4043; consolidates into a single proceeding Docket No. 3748, et al., applications of American Airlines, Eastern Air Lines, and United Air Lines (Aug. 15).

E-3137 approves agreement between Delta Air Lines and KLM Royal Dutch Airlines relating to international interline passenger and cargo traffic (Aug. 17).

E-3138 dismisses application of Challenger Airlines Company for change of service pattern (Aug. 15).

E-3139 denies application of Pan American Airways requesting exemption from the provisions of § 401 of the Act, so as to permit nonstop service between the United States-co-terminal San Francisco, and Los Angeles, Calif., Seattle-Tacoma, Wash., and Portland, Oreg., and points in the Orient (Aug. 15).

E-3140 terminates suspension of letter of registration No. 292 issued to Ocean Air Traders (Aug. 16).

E-3141 orders the temporary certificate issued to Iowa Airplane Company for route No. 90 be reissued so as to reflect the change in corporate name from Iowa Airplane Company, Inc., to Midwest Airlines, Inc. (Aug. 16).

E-3142 approves agreements CAB Nos. 2933, 2935, 2936, 2937, 2940, 2941, 2942, and 2943, between Eastern Air Lines and certain foreign air carriers relating to standard IATA interline traffic agreements (Aug. 17).

E-3143 approves agreement between Capital Airlines and American Airlines relating to lease of space at radio transmitter station (Aug. 17).

E-3144 approves agreement between Southwest Airways Company and United Air Lines, relating to ground handling of United's flights by Southwest at Ukiah and Yreka, Calif. (Aug. 17).

E-3145 approves agreement between Mid-Continent Airlines and Capital relating to lease of office space at the airport terminal building, New Orleans, La. (Aug. 17).

E-3146 approves agreement between TWA and Koninklijke Luchtvaart Maatschappij, N. V. (KLM) relating to ground facilities at Santa Maria Airport, Azores (Aug. 17).

E-3147 approves agreement between American and TWA, relating to lease of space at Sky Harbor Airport, Phoenix, Ariz. (Aug. 17).

E-3148 approves agreements between Braniff and National and Braniff and British South American Airways relating to interline passenger and cargo traffic agreements (Aug. 17).

E-3149 approves agreement between Pan American-Grace Airways and Braniff relating to IATA interline traffic agreement (Aug. 17).

E-3150 extends to October 16, 1949, the effective date of the certificate issued to Northern Consolidated Airlines authorizing service between certain points in Alaska (Aug. 17).

Civil Aviation Highlights

	1949	1948
Airports recorded with CAA, Sept. 1	6,421	6,269
By type:		
Commercial	2,697	3,020
Municipal	2,181	1,984
CAA intermediate	146	164
Military	383	412
All others	1,014	689
Civil airports by class:		
Total	6,038	5,857
Class I and under	3,999	3,946
Class II	987	917
Class III	481	439
Class IV	366	353
Class V	132	128
Class VI and over	73	74
Total U. S. civil aircraft, Sept. 1	92,537	97,273
Scheduled air carrier aircraft, Sept. 1	1,084	1,054
Civil aircraft production, July		
Total	301	920
1- and 2-place models	71	473
Over 2-place models	230	447
Certificates approved, July		
Student pilots	4,923	13,477
Private pilots	3,003	9,614
Commercial pilots	731	805
Airline transport pilots	76	70
Mechanics (original certificates)	547	1,082
Ground instructors (original certificates)	145	174
Flight instructor ratings	219	370
Instrument ratings	117	147
Control tower operators	133	133
Traffic control activity, July		
Aircraft operations, CAA airport towers	1,684,687	1,930,736
Fix postings, CAA airway centers	872,933	818,487
Airport Operations		
Washington National, August		
Scheduled air carrier:		
Passengers departing	61,849	54,327
Passengers arriving	61,176	54,070
Aircraft arrivals and departures	10,246	10,101
Other aircraft arrivals and departures	3,458	3,700
Scheduled air carrier:		
Passengers departing	49,794	41,198
Passengers arriving	50,204	43,590
Aircraft arrivals and departures	7,777	6,500
Other aircraft arrivals and departures	4,717	5,126
Oakland Municipal, July		
Scheduled air carrier:		
Passengers departing	5,249	6,855
Passengers arriving	4,930	5,374
Aircraft arrivals and departures	4,913	4,369
Other aircraft arrivals and departures	23,238	17,964
Miami International, July		
Scheduled air carrier:		
Passengers departing	41,172	36,128
Passengers arriving	43,101	38,755
Aircraft arrivals and departures	7,830	6,246
Other aircraft arrivals and departures	8,294	7,884

¹ Airport type definitions: Commercial—Public use and public services, privately owned and operated. Municipal—Public use and public services, municipally owned and/or operated. CAA Intermediate—Public emergency use, no services, CAA operated. Military—Public restricted, military operated. All others—(a) Public emergency use only, no public services, privately owned for personal use; (b) Public emergency use only, no public services, Government-owned Forest Service, etc.

TWA Permitted to Continue Los Angeles Coach Service

The Civil Aeronautics Board announced September 13 that it was permitting TWA to continue its air coach service with DC-3 aircraft between Kansas City and Los Angeles through December 31, 1949, in order to give that carrier a reasonable period of time within which to explore the possibility of utilizing high-density four-engine equipment in this operation.

The Board emphasized that the extension of time granted to TWA does not represent in any way an alteration of the Board's recently announced policy on air coach service, in which the Board indicated that it would not permit the use of DC-3 aircraft in air coach operations because this type of aircraft did not appear capable of being economically operated in air coach service.

Regulations of The Administrator

(Through September 30, 1949)

NOTE: All Regulations of the Administrator in effect on June 30, 1949, were published in the Federal Register, part II, section 2, July 16, 1949, which is on sale at 20 cents a copy by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C. Dates on which all amendments issued subsequent to June 30, 1949, were published in the Federal Register are given in parentheses, with the price of that issue of the Federal Register. Parts marked with an asterisk (*) may be obtained separately from the Superintendent of Documents at the indicated prices. Remit check or money order, made payable to the Superintendent of Documents, directly to the Government Printing Office, Washington 25, D. C.

Part 405—Procedure of the Civil Aeronautics Administration.
Part 406—Rules of Practice Governing Proceedings to Alter, Amend, or Modify Certificates.
Part 407—Seizure of Aircraft.
Part 450—Inter-American Aviation Training Grants.
Part 501—Aircraft Registration Certificates.
*Part 502—Dealers' Aircraft Registration Certificates. (5¢.)
*Part 503—Recordation of Aircraft Ownership. (5¢.)
*Part 504—Recordation of Encumbrances Against Specifically Identified Aircraft Engines. (5¢.)
*Part 505—Recordation of Encumbrances Against Aircraft Engines, Propellers, Appliances, or Spare Parts. (5¢.)
*Part 550—Federal Aid to Public Agencies for Development of Public Airports. (10¢.)
Amendment 1. (August 11, 1949. 15¢.)
Amendment 2. (September 1, 1949. 15¢.)
Part 555—Acquisition of Government-owned Lands for Public Airport Purposes.
*Part 560—Reimbursement for Damage to Public Airports by Federal Agencies. (10¢.)
Part 570—General Regulations of Washington National Airport.
Part 571—Aeronautical Rules for the Washington National Airport.
Part 600—Designation of Civil Airways (including amendments 1 through 18).
Amendment 19. (July 28, 1949. 15¢.)
Amendment 20. (Sept. 30, 1949. 15¢.)
Part 601—Designation of Control Areas, Control Zones, and Reporting Points (including amendments 1 through 22).
Amendment 23. (July 28, 1949. 15¢.)
Amendment 24. (Sept. 30, 1949. 15¢.)
Part 609—Standard Instrument Approach Procedure.
Part 610—IFR Altitude Minimums.
Part 625—Notice of Construction or Alteration.
Part 635—Reproduction and Dissemination of Current Examination Materials.

Programs of CAA to Aid Civil Aviation Outlined

(Continued From Page 109)

phasis on the practical rather than the spectacular aspects of aviation were reviewed by the Administrator in developing the theme that to win popular approval, the plane must be made useful to more people.

A comparatively small portion of the population has been sold on flying to the extent that they will own and operate a plane because the personal plane has not proved useful enough to make it appealing to a larger group, he said.

"To be really useful," he continued, "the airplane ought to operate safely from a 2-acre lot; it ought to have a reasonably high speed; it ought to be able to slow down in safe flight to around 20 to 25 miles an hour; and it ought to be roadable. With these characteristics, the personal airplane would appeal to a far wider segment of our population. I believe it would go into quantity production."

Although never well supplied with funds for such activities, the CAA has had excellent results in every development project undertaken to encourage the development of personal flying, the Administrator said, citing the spinproof plane, the cross-wind landing gear, and the development of light weight and relatively inexpensive radio equipment for personal planes.

Many Services Provided.—The services provided for encouraging the development of personal flying have been considerable, he continued. These services are now concentrated into one major office, designated the Office of Aviation Development, as a result of the recent reorganization of the CAA.

One of the divisions of this office is Aviation Extension, under which most of the encouraging and

Air Regulations . on October 1, 1949

TITLE	No.	PART			MANUAL		
		Price	Date	No. of Amendments	Price	Date	No. of Supplements §
Aircraft							
Airworthiness Certificates.....	1	\$0.05	5/10/49		None	None	
Type and Production Certificates.....	2	.05	8/1/49		\$0.10	8/1/46	
Airplane Airworthiness—Normal, Utility, Aerobatic, and Restricted Purpose Categories.....	13				None	None	3
Airplane Airworthiness.....	4a			(*) 1	.45	7/1/44	4
Airplane Airworthiness Transport Categories.....	14b	.05	9/1/49		None	None	
Rotocraft Airworthiness.....	6				None	None	
Aircraft Airworthiness, Limited Category.....	9				None	None	
Engine Airworthiness.....	13	.05	8/1/49		None	None	
Propeller Airworthiness.....	14				.15	5/1/46	
Equipment Airworthiness.....	15				No stock	7/1/38	
Radio Equipment Airworthiness.....	16	.05	2/13/41		No stock	2/13/41	
Maintenance, Repair, and Alteration of Aircraft Engines, Propellers, Instruments.....	18	.05	8/15/49		.60	6/1/43	
Airmen							
Pilot Certificates.....	20	.05	8/1/49	1	None	None	
Airline Pilot Rating.....	21	.05	8/15/49	1	None	None	
Lighter-than-air Pilot Certificates.....	22			1	None	None	
Mechanic Certificates.....	24			1	None	None	
Parachute Technician Certificates.....	25			1	None	None	
Traffic Control Tower Operator Certificates.....	26			1	None	None	
Aircraft Dispatcher Certificates.....	27			1	None	None	
Physical Standards for Airmen.....	29			1	None	None	
Flight Radio Operator Certificates.....	33			1	None	None	
Flight Navigator Certificates.....	34			1	None	None	
Flight Engineer Certificates.....	35			1	None	None	
Operation Rules							
Air Carrier Operating Certification.....	40			(*)	None	None	1
Scheduled Air Carrier Operations Outside Continental United States.....	41			(*) 2	None	None	1
Irregular Air Carrier and Off-Route Rules.....	42	.10	6/1/49	(*) 2	.15	11/1/46	2
General Operation Rules.....	43	.05	8/1/49		None	None	
Foreign Air Carrier Regulations.....	44	.05	9/1/49		None	None	
Commercial Operator Certification and Operation Rules.....	45	.05	6/1/49	(*)	None	None	
Operation of Moored Balloons.....	48				None	None	
Transportation of Explosives and other Dangerous Articles.....	49	.10	7/20/49		None	None	
Air Agencies							
Airmen Agency Certificates.....	50			1	.15	5/15/46	6
Ground Instructor Rating.....	51			1	None	None	1
Repair Station Rating.....	52			1	No stock	2/41	
Mechanic School Rating.....	53			1	Free	5/40	
Parachute Loft Certificates and Ratings.....	54			1	.15	7/1/43	
Air Navigation							
Air Traffic Rules.....	60	.10	8/1/49		1.00	8/1/48	
Scheduled Air Carrier Rules.....	61			(*) 1	None	None	
Notice and Reports of Aircraft Accidents and Missing Aircraft.....	62	.05	5/1/49		None	None	
Miscellaneous							
Rules of Practice Governing Suspension and Revocation Proceedings.....	97				None	None	

1 Certain aircraft may comply with the provisions of this part or part 4a.

2 Special regulations SR-333, SR-335.

3 Special regulation SR-334, SR-337.

4 Special regulation SR-337.

5 Special regulation SR-336.

6 Combined with Flight Information Manual, Vol. 4, No. 1.

7 Special regulation SR-334.

(*) Amendments 4a-2, 4b-12, 41-4, 42-1, and 61-5, adopted June 29, 1949, were not published with the Civil Air Regulations in Part II, Section 1, of the Federal Register on July 16, 1949, but may be obtained free from the Publications Section, CAB.

NOTE: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances should be by check or money order, payable to the Superintendent. Currency is sent at sender's risk. Amendments, Special Regulations and free Parts are obtained from the Publications Section, Civil Aeronautics Board, Washington 25, D. C.; Supplements and free Manuals from the CAA Office of Aviation Information, Dept. of Commerce, Washington 25, D. C. Parts for which no prices are indicated are included in Part II, Section 1, of the Federal Register for July 16, 1949, on sale by the Superintendent of Documents for 30 cents a copy.

A list of supplements to Civil Aeronautics Manuals issued between August 15 and September 15 is published on page 117 of this issue of the Civil Aeronautics Journal.

fostering activity is gathered. "This division will encourage the adoption of improved aircraft and equipment, especially for personal flying and for agricultural purposes," the Administrator said, "and it will specialize in providing more and better navigational aids for personal flying. A third task assigned this division is significant. It will promote the use of aircraft for transportation through obtaining information on, and seeking the simplification or elimination of unnecessary restrictions or procedures required of civil aircraft, passengers, or cargo. This, I think, is a perfectly logical bit of development work, although it is aimed directly at a reduction of regulations."

The CAA financed project at Texas A. & M. College for the development of a better "agricultural airplane," a project suggested by the Flying Farmers of America, should result in improvements which will be applicable to personal aircraft, he added.

Would Simplify Regulations.—"We are also

proposing a new part of the Civil Air Regulations which will greatly simplify the granting of type and airworthiness certificates for planes used in agricultural flying and for other special purposes, not including the transportation of persons or cargo for hire," he continued. "We will accept these planes if they meet the requirements of the military services, or existing Civil Air Regulations, or special requirements which the Administrator may prescribe for the special purpose involved. While this does not affect the personal plane, it is concrete evidence of the position we take today on the matter of reduction of regulations."

Efficiency contests, slow races, and contests in which the operator of the personal plane pits his skill in navigation against others, are among the proposals offered to promote personal flying through the medium of the National Air Races, the Administrator said. "I am one who still believes that a program interesting to spectators could be built on such events," he added.

Coach and Promotional Fare Policy For Coming Year Outlined by CAB

The Civil Aeronautics Board on September 7 issued the following policy statement on coach and promotional tariffs:

"We wish to make this statement for the information of the public and the guidance of the domestic certificated air carriers relative to the policy which we intend to follow during the coming year on the promotional and coach-type airline passenger fares which have been in effect over certain of the domestic certificated carriers during the past 10 months. These fares are designed to attract additional passenger traffic and revenues to the airlines.

"Early last summer we advised the airline industry that we would not approve or permit the continuation of any promotional passenger fares which did not carry an expiration date of September 30, 1949, and that in the meantime we would undertake a detailed review of the results of the various promotional tariffs which we had permitted to become effective on an experimental basis. We have now completed that review and have reached general conclusions respecting those tariffs. In order to give the carriers the maximum time in which to adjust their tariffs to accord with our policy, we are making this announcement at this time and in this form.

"The fares and tariffs concerned fall into four general categories as follows:

"1. Coach-Type Fares: These fares, which are typically at a level of approximately 4 cents a passenger-mile, have been in effect over various carriers for specific 'coach' flights, operating generally during off-peak periods and offering a less luxurious standard of service than is usually provided by the airlines.

"The facts which we have before us as to the results achieved under the various effective coach tariffs indicate that under certain conditions, coach tariffs generate a substantial quantity of new air travel which can be profitably carried by the certificated carriers. The special conditions which appear to require consideration in evaluating air coach operations are: (a) that the operation be conducted over routes having a heavy flow of traffic, (b) that high density equipment (equipment having more than the average number of seats) be used, (c) that the service be scheduled so as to minimize the diversion of traffic from regular flights, and (d) that all nonessential services to the passenger be eliminated, such as meals, extra stewardesses, full reservations procedures, etc. Obviously it is impossible to lay down inflexible rules in a field which is as experimental as this. Accordingly, we shall scrutinize each coach tariff, as filed, on its merits.

"In general we have serious doubts whether coach services can be successfully operated with conventional DC-3 type aircraft having only 21 or 24 seats. The data which we have indicates that before such an operation can be successful, it must attain a load factor in excess of 85 percent which, over any extended period, is probably above what can be attained.

"In light of these considerations, we are prepared to act favorably on filings which call for a 9-month extension beyond September 30, 1949, of certain existing coach tariffs which appear to meet the general criteria discussed above and which have individually demonstrated their feasibility. These will include the present coach tariffs of Capital between Washington and New York on the one hand and Chicago and Minneapolis on the other hand, operated with DC-4 equipment having 59 or more seats. It will also include Northwest's coach fares between New York and Seattle operated with combination DC-4 equipment with 55 or more seats. Also included in our approval of existing coach services is TWA's New York-Chicago service utilizing 38-passenger stratoliners.

We are also prepared to vacate the suspension on Northwest's tariff providing coach service between Chicago and Portland with 55-seat combination DC-4s. Western Airline's proposed service between San Diego and Seattle with 60-passenger DC-4 aircraft will be approved provided that departure times from originating terminals be limited from 10 p. m. to 1 a. m.

"We are not prepared at this time to grant further approval to TWA's DC-3 coach service between Kansas City and Los Angeles nor to Continental's DC-3 Kansas City-Denver coach service. Neither will we permit Capital to expand its coach service from New York-New Orleans with 50-seat aircraft, nor National between New York and Miami with 46-seat equipment. Northwest's coach fares proposal between Chicago and Minneapolis fails to specify departure times and appears to involve a number of daily flights. It cannot therefore be approved in its present condition.

"There is little indication that the airline industry is in a position to enter the air coach business on a broad and indiscriminate basis. Despite the favorable trend of airline costs and the recent upturn in airline earnings, the present economic position of the certificated carriers appears to demand the continuation of existing fare levels for the great bulk of passenger air travel. The success of air coach tariffs under the limited conditions mentioned above, however, leads us to the conclusion that some further experimentation in this field may well be justified. We shall accordingly give careful consideration to other coach tariffs filed which meet the conditions outlined above. We shall expect each tariff filing to be accompanied and supported by a detailed economic justification both from a traffic and cost standpoint for the fares proposed. We would caution the carriers that the burden of proof for the establishment of additional coach service is clearly on them. We do not propose to allow the indiscriminate extension of coach fares nor do we intend to permit a general debasement of the existing passenger fare level.

"All new coach tariffs and those on which extensions are sought should carry an expiration date no later than June 30, 1950. We will also require that all coach tariffs be applicable to specific flights. Except in specific and isolated unusual circumstances, high-density equipment must be used and the flights operated during the times set in the tariff. Extra sections may not be used as a device simply to increase in effect the number of coach flights authorized.

"2. Family Fare Plan: Many of the domestic air carriers have had in effect since last fall or winter the so-called family fare plan under which members of a family may travel by air at a reduction (usually 50 percent) from the regular fare if traveling with the head of the family on certain off-peak days of the week, such as Monday, Tuesday, and Wednesday. This plan appears to have been successful in building up traffic for the carriers during the periods of the week when traffic is usually light. The success of the plan in generating new traffic, as opposed to simply diverting traffic from a peak to an off-peak period of the week, is not entirely clear, but the indications from the material which has been submitted to us by the carriers are that a considerable proportion of family fare traffic is in fact newly generated. Accordingly, we are inclined to look with favor upon a continuation of the family fare plan. Since we do not yet have available data with respect to the family fare plan during the peak summer season we shall limit the extension to June 30, 1950.

"We will expect those carriers which do not now have the family fare plan in effect, but which desire to file tariffs containing the plan, to support such filings with adequate traffic data, indicating the nature and extent of their off-peak traffic loads. We are not prepared to approve, as some carriers have proposed, a family fare plan which would be applicable to all days of the week.

"3. No-Meal Tariffs and Rules: Two of the certificated carriers have had in effect since February 1, 1949, a tariff rule which provides that no in-flight meals will be served on the schedules of the carriers and that meals on the ground will be for the account of passengers. The fares of these carriers were reduced by approximately 5 percent at the time that this rule became effective, and this reduction was permitted to become effective only as the assertion of the carriers that the elimination of meals would bring about total savings to the carriers of approximately 5 percent. The results of these experimental fares appear to have borne out the carriers' contentions with respect to cost savings. The effect of the tariff upon the carriers' traffic, however is by no means clear since they have been affected by a number of other factors beyond their control. We are prepared to extend the no-meal tariff for an additional period of 9 months. We would condition this extension by requiring that the no-meal tariff be applicable to all routes and all operations of the carriers involved. In other words, we would not favor at this time a no-meal tariff which applied to only part of a carrier's routes or operations.

"4. Miscellaneous Promotional Fares: We have also considered a wide variety of other promotional fares which had been in effect over various airlines. These included special educational fares whereby certain local feeder lines have sought to introduce their service to the traveling public, group fares which provided a discount for parties and groups of persons traveling together, and other promotional schemes. Experience with these miscellaneous promotional fares is in general too short, and their use too restricted, to make a determination as to whether they are economical or whether they were attracting to the carriers, having the tariffs in effect, any appreciable volume of additional traffic. We will, accordingly, permit such tariffs to remain in effect, if proposed by the carriers, for an additional experimental period of 4 months or until January 31, 1950.

"We are likewise not prepared at this time to comment upon the round trip excursion fares which Eastern, National, and Delta have had in effect since May 1, and which do not expire until October 31. These fares are primarily off-season fares for these carriers, designed to stimulate airline traffic during the period of the year which has traditionally been light. The results of these fares on the traffic of the carriers concerned have not yet been determined.

"With respect to the tariffs which we have indicated we would extend for an additional period of time, we will consider the request of the carriers to amend these tariffs accordingly on less than the statutory 30 days notice. Each carrier having in effect a promotional fare will be required to maintain an adequate statistical record of the results of the fare, reporting this information to the Board on a monthly basis. In this manner, we hope to have a firm statistical basis for determining whether the various types of promotional fares under consideration should become a permanent part of the passenger fare structure of the domestic air carriers."

June Mileage Figures Announced

The 16 domestic trunk airlines flew 99.74 percent of their scheduled mileage in June of this year, the Civil Aeronautics Board has announced. Of the 36.23 average available seats per mile 68.26 percent were occupied by revenue passengers.

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